

UNION OIL COMPANY OF CALIFORNIA (dba UNOCAL)
CHUNCHULA OIL AND GAS PRODUCTION, TREATING & PROCESSING
FACILITY
CHUNCHULA, MOBILE COUNTY, AL
FACILITY NO.: 503-4005

STATEMENT OF BASIS

The proposed Title V Major Source Operating Permit (MSOP) renewal is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

Union Oil Company of California (UNOCAL) was issued its existing MSOP for the Chunchula Oil and Gas Production, Treating and Processing Facility (Chunchula Plant) on June 7, 2006 with an expiration date of April 12, 2010. Per ADEM Rule 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. The initial renewal application was received on September 25, 2009 and a complete permit application for the permit renewal was received at the Department on October 6, 2009. The proposed MSOP will expire on April 12, 2015.

The facility has requested to add a 240 HP backup generator engine for power generation during outages and to remove the two existing 1200 HP gas fired turbine engines (43-501A and 43-501B) from service. The facility has also requested that the Department distinguish between daily observations for opacity monitoring and visible emission observations associated with an opacity deviation. Finally, the renewal will address the facility's applicability to any newly promulgated regulations and any previous regulations which may not have been addressed in the past such as the storage tanks applicability to 40 CFR 60 Subpart K_a for the condensate storage tanks.

Process Description

UNOCAL operates the Chunchula Plant located at 12303 Roberts Road, Chunchula, Mobile County, AL. The facility processes sour gas and condensate from the Chunchula Field. The plant's process consists of inlet separation, condensate stabilization, gas sweetening, sulfur recovery, ethylene glycol (EG) or tri-ethylene glycol (TEG) sweet gas dehydration, natural gas liquid (NGL) extraction, NGL fractionation, residue gas injection, residue gas nitrogen rejection, and sales gas compression. Under normal operation EG is used for dehydration.

The inlet stream consists of both high pressure (HP) and low pressure (LP) gas and liquids. Upon entering the plant the HP stream is separated into a gas and liquid stream by the inlet separation system. The HP liquids are sent to the LP inlet separation system to be further separated into a condensate stream and a salt water stream. The HP gas stream is sent to the sour gas treating system where hydrogen sulfide (H₂S) is removed from the stream resulting in a sweet gas stream and an acid gas stream. The acid gas from the sour gas treating system is routed to the sulfur

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recovery system where most of the H_2S is removed from the gas stream in the form of elemental sulfur. The elemental sulfur is sent off to be either sold or disposed of. The tail gas from the sulfur recovery system is burned in the thermal oxidizer where H_2S is converted into sulfur dioxide (SO_2) and vented to atmosphere.

The sweet gas stream from the sour gas treating system is sent to either the DEG or the EG gas dehydration system (only one is online at a time) where water is removed from the gas. The dried sweet gas stream then goes through the NGL recovery system where the liquids are extracted from the gas stream. The NGLs are then sent through the fractionation system where they are further separated into a propane stream, a butane stream, and a residual liquid stream. The propane and butane streams are stored separately until sold through the sales pipeline. The residual liquid stream is sent to the condensate storage system. The sweet gas remaining, after the NGLs have been extracted, is either sent to the nitrogen rejection system to remove nitrogen from the gas before being compressed in the sale gas compression system and sent down the sales pipeline or used as fuel in the injection gas compression system.

The LP gas and liquid stream is sent through the LP inlet separation system which results in a condensate and a saltwater stream. The condensate stream is sent through the condensate desalting system which removes saltwater from the condensate before it enters the condensate stabilization system. In this system, any remaining gas is separated from the condensate, recovered by a flash gas compression system, and sent to the sour gas treating system. The condensate is then sent to the condensate storage system and on to the sale pipeline. The saltwater stream from the LP inlet separation system and the condensate desalting system is sent to the saltwater disposal system.

The facility is currently permitted for the following emission sources:

- Process Heaters and Boilers
 - **(25-301A [No. 1] & 25-301B [No. 2])**- (2) 93 MMBtu/hr Natural Gas Fired Boilers
- Stationary Internal Combustion Engines
 - **(NRU 1 [East] & NRU 2 [NRU West])**- (2) 1,478 HP, Lean Burn Natural Gas Fired Nitrogen Rejection Unit (NRU) Engines w/ catalytic converters
 - **(42-801A [No. 1] & 42-801B [No. 2])**- (2) 2,500 HP, Four Stroke, Rich Burn Natural Gas Fired Injection Compressor Engines w/ catalytic converters. Each of these units cool the gas stream in order to phase-separate the lighter hydrocarbons from the heavier hydrocarbons and water.
 - **(42-101A [No. 1], 42-101B [No. 2], & 42-101C [No. 3])**- (3) 600 HP, Two Stroke, Lean Burn Natural Gas Fired Inlet Gas Compressor Engines w/ catalytic converters. Each of these units increases the

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pressure of the gas entering the plant until the requisite plant pressure is reached.

- **(42-401A [No. 1] & 42-401B [No. 2])**- (2) 2,500 HP, Four Stroke, Rich Burn Natural Gas Fired Refrigeration Compressor Engines w/ catalytic converters. Each of these units re-injects produced gas back into the ground in order to facilitate further oil and gas extraction.
- **(43-501A [No. 1] & 43-501B [No. 2])** - (2) 1,200 HP, 3 Stage, Axial Flow, Natural Gas Fired Turbine Engines-these unit will be removed from service and from the permit during this renewal.

➤ **Control Devices**

- **(29-203) Sulfur Recovery Unit (SRU)and Thermal Oxidizer**
- **(29-601) Flare No. 1- Facility Emergency Flare**
- **Vapor Recovery Unit (VRU)**
- **Inlet Gas Compressors** for flash gas compression

➤ **Storage Tanks**

- **(33-600)** 16,800 Gallon Saltwater Disposal (SWD) Process Side Gun Barrel w/ VRU
- **(33-601)** 16,800 Gallon Saltwater Disposal (SWD) Process Side Retention Tank w/VRU
- **(33-602)** 16,800 Gallon Saltwater Disposal (SWD) Side Clean Tank w/VRU
- **(33-603)** 16,800 Gallon Saltwater Disposal (SWD) Oxygenated Gun Barrel w/VRU
- **(33-604)** 42,000 Gallon Saltwater Disposal (SWD) Oxygenated Retention Tank w/VRU
- **(33-605)** 16,800 Gallon Saltwater Disposal (SWD) Oxygenated Clean Tank w/VRU
- **(33-606)** 8,820 Gallon Saltwater Disposal (SWD) Slop Oil Tank w/VRU
- **(33-701A)** 630,000 Gallon Condensate Tank w/VRU
- **(33-701B)** 630,000 Gallon Condensate Tank w/VRU

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PERMITTING HISTORY**

<u>Date Permit Issued</u>	<u>Date permit Voided</u>	<u>Permit Type</u>	<u>Permit No.</u>	<u>Project Description</u>
11/20/1975 (Issuance Letter Dated 1/5/1976)	1/1/1978	Construction	503-4005-0001	13.68 MMBtu/hr Boiler
11/20/1975 (Issuance Letter Dated 1/5/1976)	1/1/1978	Construction	503-4005-0002	Natural Gas Liquid Recovery and Gas Sweetening Unit
11/20/1975 (Issuance Letter Dated 1/5/1976)	8/29/1983	Construction	503-4005-8401 503-4005-8402 503-4005-8403 503-4005-8404 503-4005-8405 503-4005-8406	(T1A)-42,000 Gallon Condensate Storage (T1B)-42,000 Gallon Condensate Storage (T1C)-42,000 Gallon Condensate Storage (T1D)-42,000 Gallon Condensate Storage (T1E)-42,000 Gallon Condensate Storage (T1F)-42,000 Gallon Condensate Storage
1/1/1978	6/7/2006 5/25/2007 (removed from service)	Construction (Expansion Project)	503-4005-0002	Natural Gas Processing and Condensate Recovery <ul style="list-style-type: none"> ▪ (29-203) Claus Sulfur Recovery Plant and Incinerator ▪ (29-601) Emergency Flare ▪ (42-101A) 600 HP, 2SLB Inlet Gas Comp Engine ▪ (42-101B) 600 HP, 2SLB Inlet Gas Comp Engine ▪ (42-101C) 600 HP, 2SLB Inlet Gas Comp Engine ▪ (42-401A) 2500 HP, 4SRB, Ref Comp Engine ▪ (42-401B) 2500 HP, 4SRB, Ref Comp Engine ▪ (43-501A) 1200 HP Solar Turbine Generators ▪ (43-501B) 1200 HP Solar Turbine Generators ▪ (7) Propane Storage Tanks ▪ (4) Butane Storage Tanks ▪ (42-801A) 2500 HP, 4SRB, Injection Comp Engine ▪ (42-801B) 2500 HP, 4SRB, Injection Comp Engine ▪ (42-801C) 2500 HP, 4SRB, Injection Comp Engine
1/1/1978	6/7/2006	Construction	503-4005-0003 503-4005-0004 503-4305-8407 503-4305-8408	(25-301A) 93 MMBtu/hr Boiler Natural Gas Fired Only (initially requested 125 MMBtu/hr boilers 5/31/1979) (25-301B) 93 MMBtu/hr Boiler Natural Gas Fired Only (initially requested 125 MMBtu/hr boilers 5/31/1979) (33-701A) 630,000 Gallon Condensate Storage w/VRU (33-701B) 630,000 Gallon Condensate Storage w/VRU
8/29/1983	6/7/2006			Storage Tanks: <ul style="list-style-type: none"> ▪ (33-600) 16,800 Gallon SWD Process Side Gun Barrel w/VRU to Flare ▪ (33-601) 16,800 Gallon SWD Process Side Retention Tank w/VRU to Flare ▪ (33-602) 16,800 Gallon SWD Side Clean

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				<ul style="list-style-type: none"> Tank ▪ (33-603) 16,800 Gallon SWD Oxygenated Gun Barrel w/VRU to Flare ▪ (33-604) 42,000 Gallon SWD Oxygenated Retention Tank w/VRU to Flare ▪ (33-605) 16,800 Gallon SWD Oxygenated Clean Tank
10/21/1983	12/12/2007 (OOS Date)	Construction (Nitrogen Injection Expansion Project)	503-4005-0005	(42-801D) 2500 HP, 4SRB, Injection Comp Engine
6/25/1997	6/7/2006	Construction	503-4005-Z006	Enhanced Cold Absorption Unit
4/13/2000	6/7/2006	MSOP	503-4005	Initial Title V
2001				VRU added to the following storage tanks: <ul style="list-style-type: none"> ▪ (33-602) 16,800 Gallon SWD Side Clean Tank w/VRU to the Flare ▪ (33-605) 16,800 Gallon SWD Oxygenated Clean Tank w/VRU to the Flare
6/4/2002	6/7/2006	Construction (Nitrogen Rejection Project)	503-4005-Z007	(NRU-1 [East]) 1,478 HP, Lean Burn Natural Gas Fired Engines w/catalytic converter (NRU-2 [NRU West]) 1,478 HP, Lean Burn Natural Gas Fired Engines w/catalytic converter
5/25/2007	8/26/2008	Construction	503-4005-Z008	Catalytic converters and Formaldehyde limits added to the following units: <ul style="list-style-type: none"> ▪ (42-101A) 600 HP, 2SLB Inlet Gas Comp Engine ▪ (42-101B) 600 HP, 2SLB Inlet Gas Comp Engine ▪ (42-101C) 600 HP, 2SLB Inlet Gas Comp Engine ▪ (42-401A) 2500 HP, 4SRB, Ref Comp Engine ▪ (42-401B) 2500 HP, 4SRB, Ref Comp Engine ▪ (42-801A) 2500 HP, 4SRB, Injection Comp Engine ▪ (42-801B) 2500 HP, 4SRB, Injection Comp Engine
6/7/2006	8/26/2008	MSOP	503-4005	1 st Title V Renewal
8/26/2008		MSOP	503-4005	1 st Title V Renewal-Modification-addressed MACT HH, added monitoring for catalytic converters, made emergency flare smokeless
10/30/2009		Construction	503-4005-X001	240 HP emergency generator engine

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Emission Point	Description	Pollutant	Emission Limit	Regulations
Sources:				
	Petroleum Production Facility that handles gas or refinery gas containing 0.10 grains of H ₂ S/scf	H ₂ S	Burn gas 20 ppbv offsite	Rule 335-3-5-.03(1) Rule 335-3-5-.03(2)
	Onshore Natural Gas Processing Plants All affected facilities: Compressors in VOC or wet gas service Group of all equipment Dehydration Units Sweetening Unit LNG Unit	VOC	LDAR work practices	40 CFR 60 Subpart KKK
	Oil and Natural Gas Production Facilities All affected sources at a major source of HAPs: Glycol Dehydration Units Storage vessels with the potential for flash gas emissions Group of all ancillary equipment Compressors operating in volatile HAP service	HAPs Fugitive VOC	 LDAR work practices	 40 CFR 63 Subpart HH

Applicability:

- ADEM Admin. Code R. 335-3-5-.03(1), "*Petroleum Production*" applies to the control of sulfur compound emissions from each petroleum production facility that handles gas or refinery gas that contains more than 0.10 grains of hydrogen sulfide (H₂S) per standard cubic foot (scf). The Chunchula Plant handles sour gas that contains 0.10 grain of H₂S/scf or more; therefore, the facility is subject to the applicable requirements of this regulation.

Emission Standards:

- In order to meet the applicability requirements of ADEM Admin. Code R. 335-3-5-.03(2), all process gas containing greater than the 0.10 grains of H₂S/scf shall be burned to the extent that the ground level concentrations of hydrogen sulfide are less than twenty (20) parts per billion beyond plant property limits, average over a thirty (30) minute period
- According to ADEM Admin. Code R. 335-3-5-.03(3), SO₂ emissions in Category I counties are unlimited provided that the available sulfur is less than 5 long tons per day (LTons/day). The Chunchula Plant is located in Mobile County which is classified as a Category I county. The available sulfur from the facility is not expected to be greater than 5 Ltons/day (466.7 lb/hr SO₂).
- Each process gas stream that has to be vented to the atmosphere should be first captured and sent to the thermal oxidizer or emergency flare to be burned. Except for

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a period not to exceed 15 continuous minutes while depressurizing and/or emptying equipment and when reduced pressure will not allow flow of gas to a control device, venting to the atmosphere is not allowed.

Compliance and Performance Test Methods and Procedures:

- Compliance with the requirement to burn gas containing 0.10 grains of H₂S/scf is demonstrated by routing tail gas from the sulfur recovery unit to the thermal oxidizer, routing gas back through the fuel gas system and routing vapors collected by the vapor recovery unit from the storage tanks to the emergency flare. During emergency situations when the thermal oxidizer is down, the tail gas from the SRU is burned in the emergency flare. Compliance is also met by sampling and testing all sour gas streams that can be vented to atmosphere for its H₂S content (mol %).
- Compliance with the requirement to maintain the ground level concentrations of hydrogen sulfide at less than twenty (20) parts per billion beyond plant property limits averaged over a thirty (30) minute period shall be met by maintaining the H₂S feedrate to the flare at 500 lb/hr or less and maintaining the thermal oxidizer firebox temperature at greater than or equal to 900 °F.

Emission Monitoring:

- Monitoring to demonstrate compliance with the requirement to burn gas with more than 0.10 grains of H₂S per scf is met by monitoring the emergency flare and thermal oxidizer as required by the existing permit. This renewal will not result any changes.

Recordkeeping and Reporting Requirements:

- The facility's record keeping and reporting requirements are met by performing monthly calculations for the engines, boilers, thermal oxidizer, and the emergency flare.

Applicability:

- ADEM Admin. Code R. 335-3-14-.04 "*Prevention of Significant Deterioration (PSD) Permitting*". The Chunchula Plant was issued its first construction permit on November 20, 1975, prior to the PSD regulations being promulgated; therefore, the facility was considered a grandfathered source. In 2002, grandfathered sources were required to demonstrate compliance with PSD regulations using Best Available Retrofit Technology (BART) if they meet all of the following criteria: commenced construction between August 7, 1962 and August 7, 1977, had the potential to emit 250 TPY or more of visibility-impairing air pollutants, and was listed as one of the 26 source categories under PSD that are found in 335-3-14-.04(2)(a).

The Chunchula Plant commenced construction in 1975 and had the potential to emit 250 TPY; however, the facility was not equipped with one of the 26 source categories

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between the August 7, 1962 and August 7, 1977 construction dates. The facility did not commence construction of the sulfur recovery plant until July 16, 1979; therefore, the facility was exempt from having to meet the BART requirements under PSD. In order for the facility to keep its status as a grandfathered source with respect to PSD, it is required not to exceed the significant emission rates found in 335-3-14-.04(2)(w) for each project. Based on review of the facility files, the facility's status as a grandfathered source has not changed since the facility has not performed any significant modifications that would potentially trigger its applicability to PSD regulations.

Applicability:

- ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits*". The Chunchula Plant has been deemed a major source of criteria pollutants. The sulfur dioxide (SO₂), carbon monoxide (CO), and nitrogen oxide (NO_x) emissions from the facility have the potential to exceed the 100 tons per year threshold for criteria pollutants; therefore, the facility is subject to the applicable requirements of this regulation for criteria pollutants. The facility wide hazardous air pollutants (HAPs) emissions are expected to exceed the 10 TPY threshold for a single HAPs or the 25 TPY threshold for a combination of HAPs. However, the facility has taken formaldehyde limits on the engines in order to not be classified as a major source of HAPs emissions.

Applicability:

- 40 CFR 60 Subpart LLL, "*Standards of Performance for Onshore Natural Gas Processing: SO₂ emissions*", would not be applicable to the Chunchula Plant. Although, the plant is equipped with a sour gas sweetening unit, the unit was constructed in 1978 prior to the January 20, 1984 compliance date for this regulation. Therefore, the facility is not subject to the requirements of this regulation.

Applicability:

- 40 CFR 60 Subpart A, "*General Provisions*" would be subject to the Chunchula Plant because the plant is subject to 40 CFR 60 Subpart KKK.

Applicability:

- 40 CFR 60 Subpart KKK, "*Standards of Performance for Equipment Leaks of Volatile Organic Compounds (VOC) From Onshore Natural Gas Processing Plants*", would be applicable to the Chunchula Plant since the plant meets the definition of a natural gas processing plant and a new enhanced cold adsorption unit was constructed on June 25, 1997 after the January 20, 1984 compliance date for this regulation. Therefore, the facility is subject to the requirements of this regulation.

This regulation is applicable to affected facilities that include compressors in VOC

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service or in wet gas service (40 CFR §60.630 (a)(2)) and the group of all equipment within a process unit (40 CFR §60.630 (a)(3)). Equipment is defined in this subpart as pumps, pressure relief devices, open-ended valve or line, valve, compressor (except reciprocating compressors in wet gas service (40 CFR §60.633 (f))), and flanges or other connectors that are in VOC service or wet gas service. The facility's dehydration units, sweetening unit, field gas gathering system, and liquefied natural gas unit are also covered by this subpart since they are located at this facility (40 CFR §60.630 (e)).

Emission Standards:

- To demonstrate compliance with the applicable requirements of 40 CFR 60 Subpart KKK, the emission standards found in 40 CFR §60.632 shall be met, except as provided in 40 CFR §60.633. The emissions standards for Subpart KKK refer to 40 CFR 60 Subpart VV, "*Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry*".

Compliance and Performance Test Methods and Procedures:

- Compliance with the emissions standards of this subpart shall be demonstrated through the review of records and reports, review of performance test results, and inspection using the methods and procedures specified in 40 CFR §60.485, except as specified in 40 CFR §60.633(f) (40 CFR §60.632(d) of Subpart KKK and 40 CFR §60.482-1(b) of Subpart VV).

Emission Monitoring:

- Compliance with the monitoring requirements of this subpart shall be demonstrated by meeting the inspection and monitoring requirements specified in 40 CFR §60.482-1 through §60.482-10 of Subpart VV. Sampling connection systems are exempt from the requirements found in 40 CFR §60.482-5 (40 CFR §60.633(c)). Alternative methods of monitoring valves may be elected as specified in either 40 CFR §60.483-1 or §60.483-2 of Subpart VV (40 CFR §60.632(a) & (b) of Subpart KKK).

Recordkeeping and Reporting Requirements:

- Compliance with the recordkeeping requirements of this subpart shall be met by complying with 40 CFR §60.486 of Subpart VV and as specified in 40 CFR §60.633 and §60.635 of Subpart KKK (40 CFR §60.632 (e) of Subpart KKK).
- Compliance with the reporting requirements of this subpart shall be met by complying with 40 CFR §60.487 of Subpart VV and as specified in 40 CFR §60.633 and §60.636 of Subpart KKK (40 CFR §60.632 (e) of Subpart KKK).
 - A Leak Detection and Repair (LDAR) summary report shall be submitted to the Department. The report shall be submitted semi-annually on calendar basis within

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30 days of the end of the reporting period.

Applicability:

- 40 CFR 63, Subpart A, “*General Provisions*”, would be subject to the Chunchula Plant because the plant is subject to 40 CFR 63 Subpart HH, except as specified in Table 2 of Subpart HH.

Applicability:

- 40 CFR 63 Subpart HH, “*National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities*”, would be applicable to the Chunchula Plant. This subpart applies to facilities that are a major source or area source of HAPs (40 CFR §63.760(a)(1)) and either process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer (40 CFR §63.760(a)(2)) or process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user (40 CFR §63.760(a)(3)).

The Chunchula Plants meets the applicable requirements of this subpart. Although the facility took federally enforceable limits in May 2007 to become a minor source of HAPs under 40 CFR 63 Subpart ZZZZ, the facility is still deemed a major source of HAPs for this subpart. According to the May 16, 1995 EPA Memorandum, if an existing source is a major source of HAPs at the time when the first compliance date for the maximum available control technology (MACT) standards become effective for that subpart, the facility can not avoid compliance with the standard after the compliance date, even through a reduction in the potential to emit. The purpose of the “once in always in” policy prevents facilities from removing controls used to comply with the MACT standards. The major source regulations for this subpart were promulgated on June 17, 1999; therefore, the Chunchula Plant would be required to comply with the major source requirements of this subpart permanently. A major source of HAPs requires a potential to emit 10 TPY of one HAP or 25 TPY of a combination of HAPs (40 CFR §63.2).

An affected source at a major source of HAPs shall include (40 CFR §63.760 (b)(1)):

- Each glycol dehydration unit,
- Each storage vessel with the potential for flash gas emission,
- The group of all ancillary equipment, except compressors, intended to operate in volatile hazardous air pollutant service (as defined in 40 CFR §63.761) which are located at natural gas processing plants,
- Compressors, intended to operate in volatile hazardous air pollutant service (as defined in 40 CFR §63.761) which are located at natural gas processing plants.

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Emission Standards:

- To demonstrate compliance with the applicable requirements of 40 CFR 63 Subpart HH the facility had to implement the following emissions standards by June 17, 2002 (40 CFR §63.760 (f)(1)):
 - Each glycol dehydration unit process vent subject to this subpart shall comply with the standards found in 40 CFR §63.765, *Glycol Dehydration Unit Process Vent Standards*, except as specified in 40 CFR §63.764 (e)(1) (40 CFR §63.764 (c)(1))
 - Each storage vessel with the potential for flash emissions subject to this subpart shall comply with the standards found in 40 CFR §63.766, *Storage Vessel Standards* (40 CFR §63.764 (c)(2))
 - Ancillary equipment (as defined in 40 CFR §63.761) and compressors at a natural gas processing plant subject to this subpart shall comply with the standards found in 40 CFR §63.769, *Equipment Leaks Standards*, except as specified in 40 CFR §63.764 (e)(2) (40 CFR §63.764 (c)(3)). Because the facility is required to comply with 40 CFR 60 Subpart KKK, this section does not apply to the ancillary equipment and compressors (40 CFR §63.769 (b)).
 - Control equipment must meet the requirements specified in 40 CFR §63.771 (a). Control equipment used to comply with this subpart includes each cover, closed-vent system and control device.

Compliance and Performance Test Methods and Procedures:

- Each glycol dehydration unit process vent subject to this subpart shall comply with the control requirements specified in 40 CFR §63.765 (b) (40 CFR §63.764 (c)(1)(i)). To demonstrate exemption from the control requirements under 40 CFR §63.764 (e)(1) the facility must determine the glycol dehydration unit flowrate or benzene emissions, as specified in 40 CFR §63.772 (b).
- Each storage vessel subject to this subpart shall comply with the control requirements, as specified in 40 CFR §63.766 (b) (40 CFR §63.764 (c)(2)(i))
- Ancillary equipment (as defined in 40 CFR §63.761) and compressors at a natural gas processing plant subject to this subpart shall comply with the requirements for equipment leaks specified in 40 CFR §63.769 (40 CFR §63.764 (c)(3)). To demonstrate exemption from the control requirements under 40 CFR §63.764 (e)(2) the facility must determine the material volatile hazardous air pollutants (VHAP) or HAP concentration, as specified in 40 CFR §63.772 (a). However, since the facility is subject to the 40 CFR 60, Subpart KKK, compliance with this subpart shall be met by meeting the requirement of that subpart for the group of ancillary equipment and compressors.

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- Compliance with the control equipment requirements shall be met as specified by the following (40 CFR §63.771 (a)) :
 - Review of records as required by 40 CFR §63.774,
 - Review of reports as required by 40 CFR §63.775,
 - Review of performance test results, and
 - Inspections
- No detectable emissions test procedures shall be conducted, as specified in 40 CFR §63.772(c).
- To demonstrate that a control device achieves the performance requirements of 40 CFR §63.771 (d)(1) or (e)(3)(ii), the facility must conduct one of the following, except as specified in 40 CFR §63.772(e)(1) (40 CFR §63.772(e)):
 - Control device performance test procedures, as specified in 40 CFR §63.772(e)(3)
 - Design Analysis, as specified in 40 CFR §63.772(e)(4)

Emission Monitoring:

- Each glycol dehydration unit process vent and each storage vessel subject to this subpart shall comply with the inspection and monitoring requirements specified in 40 CFR §63.773 (40 CFR §63.764 (c)(1)(ii) and 40 CFR §63.764 (c)(2)(ii))
- Monitoring for ancillary equipment and compressors shall be met by meeting the monitoring requirements under 40 CFR 60 Subpart KKK.

Recordkeeping and Reporting Requirements:

- Each glycol dehydration unit process vent and each storage vessel subject to this subpart shall comply with the recordkeeping and reporting requirements specified in 40 CFR §63.774 and §63.775 (40 CFR §63.764 (c)(1)(iii) and 40 CFR §63.764 (c)(2)(iii))
- Recordkeeping and reporting for ancillary equipment and compressors shall be met by meeting the recordkeeping and reporting requirements under 40 CFR 60 Subpart KKK.

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Emissions:

Facility wide emissions for the Chunchula Plant are given below. The actual emissions were obtained from 2008 Title V emission estimates while the potential emissions were obtained from the permit renewal application.

Emissions from Chunchula Plant (TPY)						
	<u>PM</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>	<u>Total HAPs</u>
ACTUAL 2008 EMISSIONS	1.00	341.35	457.77	55.14	57.19	9.89
POTENTIAL EMISSIONS	0.54	1,813.50	1,033.19	1,345.40	48.02	11.70

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

BOILER EMISSIONS

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
23-301A	93 MMBtu/hr, Natural Gas Fired, Boiler No. 1	SO ₂	1.8 Lbs/MMBtu	Rule 335-3-5-.01(1)(a)
23-301B	93 MMBtu/hr, Natural Gas Fired, Boiler No. 2	SO ₂	1.8 Lbs/MMBtu	Rule 335-3-5-.01(1)(a)

Applicability:

- ADEM Admin. Code R. 335-3-4-.01, “*Visible Emissions*” for Control of Particulate Emissions is applicable to stationary sources. The boilers would be subject to the applicable requirements of this subpart.

Emission Standards:

- The facility shall only burn natural gas as fuel for the boilers.
- The boilers are required to meet the 20% and 40% opacity requirement as specified in ADEM Admin. Code R. 335-3-4-.01(1) (a) and (b).

Compliance and Performance Test Methods and Procedures:

- No compliance and performance test methods and procedures are required.

Emission Monitoring:

- Since the facility is required to only burn natural gas as fuel for the boilers, no opacity monitoring is required for the boilers. Particulate emissions from burning natural gas should be negligible.

Recordkeeping and Reporting Requirements:

- No recordkeeping and reporting required.

Applicability:

- ADEM Admin. Code R. 335-3-5-.01(1)(a), “*Fuel Combustion*”, limits SO₂ emissions from fuel burning equipment in Category I counties. The two 93 MMBtu/hr natural gas fired boilers are subject to the requirements of this regulation.

Emission Standards:

- SO₂ emissions from fuel burning equipment in Category I counties are limited to 1.8 pounds

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per million BTU heat input.

Compliance and Performance Test Methods and Procedures:

- To demonstrate compliance with the SO₂ emissions limits, the facility shall test the boiler's fuel gas for its heat and sulfur content no less than once every six months.

Emission Monitoring:

- SO₂ monitoring for the boilers shall be in the form of maintaining records.

Recordkeeping and Reporting Requirements:

- A monthly record of the boilers' operating hours (Hours/Month), fuel heat content (Btu/scf) and sulfur content (ppmv H₂S) shall be maintained to demonstrate that the SO₂ limits are being met.

Applicability:

- ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits (MSOP)*". The boilers are located at a facility that is subject to MSOP regulations; therefore, the boilers shall be subject to these regulations also.

Applicability:

- 40 CFR 60 Subpart D, "*Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced after August 17, 1971*", would not be applicable to the two boilers because each units' heat input rate is not greater than 250 million British thermal units per hour (MMBtu/hr).

Applicability:

- 40 CFR 63 Subpart DDDDD, "*National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*". The boilers were classified as an affected source under this subpart; however, they were not subject to any requirements under the subpart. Also, this MACT was vacated by EPA on June 8, 2007.

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ENGINE EMISSIONS

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
NRU-1 (NRU East Engine) & NRU 2 (NRU West Engine) (2) 1,478 HP, 4 Stroke Lean Burn Natural Gas Fired Engines w/ catalytic converters		CO NO _x VOC Opacity	≤3.05 lb/hr ≤3.92 lb/hr ≤2.48 lb/hr ≤20 % <40%	Rule 335-3-14-.04 [Anti-PSD] Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)
42-801A (Injection Compressor Engine No. 1) & 42-801B (Injection Compressor Engine No. 2) (2) 2,500 HP, 4 Stroke, Rich Burn, Natural Gas Fired Injection Compressor Engines w/ catalytic converters		Formaldehyde Opacity	≤ 0.41 lb/hr ≤20 % <40%	40 CFR 63.6585 & 40 CFR 63.6590 [MACT Avoidance] Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)
42-101A (Inlet Gas Compressor Engine No. 1), 42-101B (Inlet Gas Compressor Engine No. 2), & 42-101C (Inlet Gas Compressor Engine No. 3) (3) 600 HP, 2 Stroke, Lean Burn, Natural Gas Fired Inlet Gas or Flash Gas Compressor Engines w/ catalytic converters		Formaldehyde Opacity	≤ 0.28 lb/hr Each ≤20 % <40%	40 CFR 63.6585 & 40 CFR 63.6590 [MACT Avoidance] Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)
42-401A (Refrigeration Compressor Engine No. 1) & 42-401B (Refrigeration Compressor Engine No. 2) (2) 2,500 HP, 4 Stroke, Rich Burn, Natural Gas Fired Refrigeration Compressor Engines w/ catalytic converters		Formaldehyde Opacity	≤ 0.41 lb/hr ≤20 % <40% Total Operating Hours limited to 9,000 hours per 12 consecutive month period	40 CFR 63.6585 & 40 CFR 63.6590 [MACT Avoidance] Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)

Applicability:

- ADEM Admin. Code R. 335-3-4-.01, "*Visible Emissions*" for Control of Particulate Emissions is applicable to stationary sources. The engines would be subject to the requirements of this regulation.

Emission Standards:

- The engines are required to meet the 20% and 40% opacity requirement as specified in ADEM Admin. Code R. 335-3-4-.01(1) (a) and (b).

Compliance and Performance Test Methods and Procedures:

- Compliance with the visible emission standards shall be met by conducting a daily visual inspection of the engines' exhaust stacks. The daily visual inspection shall involve looking

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at the stack, determining the absence or presence of visible emissions, and maintaining a record of each inspection. Provided that visible emissions are observed, a visible emissions observation (veo) of the engines shall be conducted as specified in the opacity monitoring section for units subject to the state opacity rule. A daily visible emissions observation is not required on the engines.

Emission Monitoring:

- Opacity monitoring for the NRU and Non-NRU engines shall be conducted according to the opacity monitoring section for units subject to the state opacity rule when visible emissions are observed. Opacity monitoring shall utilize either EPA Test Method 9 or Method 22.

Recordkeeping and Reporting Requirements:

- A record of the date, time, and whether visible emissions were observed shall be maintained for the daily visual inspections of the engines. Provided that visible emissions are observed from the engines, a record of each occurrence, the time, date, duration, and corrective actions shall be maintained. If Method 9 is used to perform the veo, a record of the veo report shall be maintained.

Applicability:

- ADEM Admin. Code R. 335-3-14-.04 "*Prevention of Significant Deterioration (PSD) Permitting*". Anti-PSD limits were placed on the NRU engines in 2002 to prevent the facility from having to undergo a PSD review; therefore, these engines are not subject to PSD regulations.

Emission Standards:

- The emission standards used to demonstrate compliance with the Anti-PSD limits for the NRU engines are listed on page 15 of the engine emission section. Each NRU engine must be equipped with a catalytic converter. The emissions standards for the NRU engines were established in the engineering analysis dated May 10, 2002.

Compliance and Performance Test Methods and Procedures:

- To demonstrate compliance with emission standards for NRU engines the following requirements must be met:
 - Engines must be tested for NO_x emissions using EPA 40 CFR 60 Appendix A, Methods 7, 7A, 7B, 7C, 7D, or 7E or other approved methods
 - Engines must be tested for CO emissions using EPA 40 CFR 60 Appendix A, Methods 10, 10A, or 10B other approved methods
 - Engines must be tested for VOC emissions using EPA 40 CFR 60 Appendix A,

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- Methods 18, 25, 25A, 25B, 25C, 25D, or 25E or other approved methods
- Engines must be tested once every five years. The last engine tests were performed on the NRU engines in November 2007.
 - Emission factors for each pollutant must be determined through testing (Lbs/MMBtu)
 - To demonstrate compliance with the emissions standards for all engines, the fuel gas must be tested no less than once each six months for its heat content (BTU/scf) and sulfur content (H₂S ppmv). The heat content, sulfur content, fuel volume, emissions factors obtained from testing, and operating hours will be used to calculate the monthly emissions from the engines.

Emission Monitoring:

- The fuel gas volume for each of the engines shall be monitored with a system capable of continuously measuring and recording the flow rate and/or the parameters utilized for flow rate calculations.

Recordkeeping and Reporting Requirements:

- The following records shall be maintained on a monthly basis for all engines:
 - Engine Fuel Consumption (Mscf/Month)
 - Fuel Gas Heat Content (Btu/scf); the heat and sulfur content is tested once each six months
 - Fuel Gas Sulfur Content (H₂S ppmv)
 - Engine Fuel Heat Input (MMBtu/Month)
 - Engine Operating Hours (Hours/Month)- the total operating hours for the refrigeration compressor engines shall not exceed 9,000 hours in a 12 consecutive month period.
 - Formaldehyde, NO_x, CO, & VOC emissions (Lbs/Month, Lbs/Hours & Tons/12-months)
 - Maintenance performed on each engine
- A Periodic Monitoring Report (PMR) that identifies each incidence of a deviation from a permit term or condition, including those that occur during startups and shutdowns shall be prepared and submitted to the Department semi-annually on a calendar basis. The reports shall be received within 30 days of the end of the reporting period.

Applicability:

ADEM Admin. Code R. 335-3-16-.03, "Major Source Operating Permits". The engines are located at a facility that is subject to MSOP regulations; therefore, the engines shall be

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subject to these regulations also.

Applicability:

- 40 CFR 63 Subpart ZZZZ, “*National Emission Standards for Hazardous Air Pollutant for Stationary Reciprocating Internal Combustion Engines (RICE)*”. This regulation is applicable to any internal combustion engine that is located at a site that would be a major source of HAPs or an area source of HAPs. Since the facility took formaldehyde limits for the Non-NRU engines (42-101A, 42-101B, 42-401A, 42-401B, 42-401C, 42-401A, & 42-401B) and limited the operating hours on the 42-401A & 42-401B engines prior to the compliance date for this regulation, the facility is deemed an area source of HAPs emissions for this subpart. A major source of HAPs requires 10 TPY of one HAP or 25 TPY of a combination of HAPs (40 CFR §63.6585 (b)). An area source of HAPs under Subpart ZZZZ is defined as a source that is not a major source (40 CFR §63.6585(c)).

A stationary RICE that commenced construction or reconstruction before June 12, 2006 is considered an existing unit (40 CFR §63.6590(1)(iii)). Both the NRU and Non-NRU engines are existing units. Under this subpart, an existing spark ignition 4 stroke, rich burn (4SRB) stationary RICE located at an area source, an existing spark ignition 2 stroke lean burn (2SLB), and an existing spark ignition 4 stroke lean burn (4SLB) stationary RICE does not have to meet the requirements of this subpart and of Subpart A of this part (40 CFR §63.6590(b)(3)).

Emission Standards:

- The emission standards for the Non-NRU engines are listed on page 15 of the engine emission section. These standards are used to demonstrate compliance with the area source requirements under 40 CFR 63 Subpart ZZZZ. Each Non-NRU engine must be equipped with a catalytic converter.

Compliance and Performance Test Methods and Procedures:

- To demonstrate compliance with formaldehyde emission standards for Non-NRU engines the following requirements must be met:
 - Engines must be tested for VOC emissions using EPA 40 CFR 60 Appendix A, Methods 18
 - Engines must be tested once every five years. The last engine tests were performed on the Non-NRU engines in June 2007
 - Emission factors for each pollutant must be determined through testing (Lbs/MMBtu)

Emission Monitoring:

- Emission monitoring requirements for the Non-NRU engines shall be the same as those for the NRU engines.

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Recordkeeping and Reporting Requirements:

- Recordkeeping and reporting requirements for the Non-NRU engines shall be the same as those for the NRU engines.

Applicability:

- 40 CFR 60 Subpart JJJJ, “*Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*”. This regulation would not be applicable to the NRU or Non-NRU engines since all these engines are existing units and construction of these units commenced prior to June 12, 2006 (40 CFR §60.4230(a)(4)).

Applicability:

- 40 CFR 64, “*Compliance Assurance Monitoring (CAM)*”. The NRU engines are subject to the requirements of this regulation because they meet all of the following criteria: the units are subject to an emission limit or standard, a control device is used to achieve compliance with the emissions limit or standard, and pre-controlled emissions are greater than 100 TPY for criteria pollutants, 10 TPY for a single hazardous air pollutant (HAP) or 25 TPY for a combination of HAPs (40 CFR §64.2(a)). The NRU engines have emission limits in place for NO_x, CO, and VOC emission, they are equipped with catalytic converters to meet their emission limits, and their pre-controlled emissions exceed the major source threshold for criteria pollutants.

The 42-401A and 42-401B refrigeration compressor engines would not be subject to this regulation. These units have the potential to emit greater than the major source threshold of 100 TPY for NO_x and CO emissions; however, there are no emission limitations or standards required for these pollutants. These engines do have an emission limit of less than or equal to 0.41 lb/hr for formaldehyde and they are equipped with catalytic converters to control these emissions; however, the pre-controlled HAPs emissions do not exceed the major source threshold of 10 TPY for a single HAPs.

Emission Standards:

- To demonstrate compliance with the CAM regulations for the NRU engines and the emission standards for all engines, the facility must be able to demonstrate sufficient catalyst performance for the catalytic converters on each engine.

Compliance and Performance Test Methods and Procedures:

- To demonstrate compliance with the emission standards for engines with catalytic converters, the catalyst’s performance must be determined by observing the pressure drop or temperature drop across the catalyst bed or by measuring the NO_x concentration in the exhaust gas.

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Emission Monitoring:

- Periodic monitoring on the Non-NRU engines' catalytic converters and CAM on the NRU engines' catalytic converters shall consist of the following:
 - Measuring the pressure or temperature differential upstream and downstream of the catalyst bed or measuring the NO_x concentration of the exhaust gas with a portable monitor downstream of the catalytic converter. The monitoring parameter can only be changed upon Departmental approval.
 - The monitoring frequency shall be weekly

Recordkeeping and Reporting Requirements:

- A record of each occurrence of monitoring for the catalytic converters shall be maintained.

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EMERGENCY GENERATOR ENGINE EMISSIONS

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
(42-224A) Emergency Generator Engine 224 HP Generac SG150, Four Stroke, Rich Burn Natural Gas Fired Emergency Generator Engine		CO	4.0 g/HP-hr (1.98 lb/hr)	40 CFR 60.4233 (e) & 40 CFR 60 Subpart JJJJ, Table 1
		NO _x	2.0 g/HP-hr (0.988 lb/hr)	
		VOC	1.0 g/HP-hr (0.494 lb/hr)	Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)
		Opacity	<=20 % <40%	

Applicability:

- ADEM Admin. Code R. 335-3-4-.01, “*Visible Emissions*” for Control of Particulate Emissions is applicable to stationary sources. The emergency generator engine would be subject to the requirements of this regulation.

Emission Standards:

- The engines are required to meet the 20% and 40% opacity requirement as specified in ADEM Admin. Code R. 335-3-4-.01(1) (a) and (b).

Compliance and Performance Test Methods and Procedures:

- Compliance with the visible emission standards shall be met by conducting a daily visual inspection of the engine’s exhaust stack. Provided that visible emissions are observed, a visible emissions observation (veo) of the engine shall be conducted as specified in the opacity monitoring section for units subject to the state opacity rule. A daily visible emissions observation is not required on the engine.

Emission Monitoring:

- Opacity monitoring for the emergency engine shall be conducted according to the opacity monitoring section for units subject to the state opacity rule when visible emissions are observed. Opacity monitoring shall utilize either EPA Test Method 9 or Method 22.

Recordkeeping and Reporting Requirements:

- A record of the date, time, and whether visible emissions were observed shall be maintained for the daily visual inspections of the engines. Provided that visible emissions are observed from the emergency generator engine, a record of each occurrence, the time, date, duration, and corrective actions shall be maintained. If Method 9 is used to perform the veo, a record of the veo report shall be maintained.

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Applicability:

- ADEM Admin. Code R. 335-3-14-.04 "*Prevention of Significant Deterioration (PSD) Permitting*". The emergency generator engine is not subject to this regulation since the addition of this unit did not exceed any of the significant emission rates found in 335-3-14-.04(2)(w).

Applicability:

- ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits*". The emergency generator engine is located at a facility that is subject to MSOP regulations; therefore, this unit shall be subject to this regulation also.

Applicability:

- 40 CFR 63 Subpart ZZZZ, "*National Emission Standards for Hazardous Air Pollutant for Stationary Reciprocating Internal Combustion Engines (RICE)*". This regulation is applicable to any internal combustion engine that is located at a site that would be a major source of HAPs or an area source of HAPs. In May 2007, the facility took formaldehyde limits for the Non-NRU engines (42-101A, 42-101B, 42-401A, 42-401B, 42-401C, 42-401A, & 42-401B) and limited the operating hours on the 42-401A & 42-401B refrigeration compressor engines before the compliance date for this regulation; therefore, the facility is deemed an area source of HAPs emissions for this subpart.

A stationary RICE located at an area source of HAPs would be considered new if construction of the unit commenced on or after June 12, 2006 (40 CFR §63.6590(a)(2)(iii)). The emergency generator engine would be a new affected source. A new stationary RICE located at an area source of HAPs emissions would be required to comply with the requirements of this subpart by meeting the requirements of 40 CFR 60, Subpart JJJJ, for Spark Ignition Engines. No further requirements under this subpart applies for such engines (40 CFR §63.6590(c)).

Applicability:

- 40 CFR 60 Subpart A, "*General Provisions*". The emergency generator engine would be subject to the general provisions of this subpart since it was determined to be subject to the requirements of 40 CFR 60, Subpart JJJJ.

Applicability:

- 40 CFR 60, Subpart JJJJ, "*Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*". This subpart would be applicable to owners and operators of stationary SI ICE engines in which construction commenced after June 12, 2006. An emergency SI ICE with a maximum engine power greater than 25 HP that is constructed after the June 12, 2006 compliance date and manufactured on or after January 1, 2009 is

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EMERGENCY GENERATOR ENGINE EMISSIONS

subject to the requirements of this subpart (40 CFR §60.4230 (a)(4)(iv)). Since the emergency generator engine would be constructed and manufactured after the compliance dates under this regulation, this unit would be subject to this regulation.

Emission Standards:

- The emission standards (limits) found on page 21 were derived from Table 1 of 40 CFR 60, Subpart JJJJ for emergency SI engines greater than or equal to 130 HP (40 CFR §60.4233 (e)).

Compliance and Performance Test Methods and Procedures:

- To demonstrate compliance with 40 CFR 60, Subpart JJJJ, the facility chose to purchase a certified engine and to operate and maintain the certified engine according to manufacturer's written instruction; therefore, no performance testing is required (40 CFR §60.4243(a)(1)).
- To demonstrate compliance with the requirements for an emergency stationary ICE, the emergency generator engine shall comply with the following requirements (40 CFR §60.4243 (d)):
 - Engine may be operated for the purpose of maintenance checks and readiness testing for a period not to exceed 100 hours per year; however, there is no time limit on the use of the engine in emergency situations.
 - Engine may operate up to 50 hours per year in non-emergency situations; however, the 50 hours for non-emergency situations counts towards the 100 hours allowed for maintenance checks and readiness testing and the 50 hours for non-emergency situations cannot be used for peak shaving or generating income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
 - Any operation of the emergency engine other than for emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year is prohibited.
- To demonstrate compliance with the emissions standards for the emergency generator engine, the fuel gas must be tested no less than once each six months for its heat content (BTU/scf) and sulfur content (H₂S ppmv). The heat content, sulfur content, fuel volume, manufacturer's emissions factors, and operating hours will be used to calculate the monthly emissions from this unit.

Emission Monitoring:

- The fuel gas volume for the emergency generator engine shall be monitored with a system capable of continuously measuring and recording the flow rate and/or the

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parameters utilized for flow rate calculations.

- Periodic monitoring for the emergency generator engine will be in the form of maintaining monthly records of the fuel gas volume and the engine operating hours.

Recordkeeping and Reporting Requirements:

- The following monthly records shall be maintained:
 - Fuel Gas Volume (Mscf/Month)
 - Engine Operating Hours (Hours/Month)
- The following records shall be maintained to demonstrate compliance with 40 CFR 60, Subpart JJJJ (40 CFR §60.4245):
 - All notifications submitted to comply with this subpart and all documentation supporting any notification (40 CFR §60.4245 (a)(1))
 - Maintenance conducted on the engine (40 CFR§ 60.4245 (a)(2))
 - Documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048 for a certified engine (40 CFR §60.4245 (a)(3))
- The facility is required to maintain the engine records and have them available for inspection for a period of five years.

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SULFUR RECOVERY UNIT AND THERMAL OXIDIZER EMISSIONS

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
(29-203) Sulfur Recovery Unit (SRU) and Thermal Oxidizer		SO ₂	Unlimited provided that the available sulfur is less than or equal to 5 LTons/day	Rule 335-3-5-.03(3)
		H ₂ S	Burn gas with 0.10 grains of H ₂ S/scf	Rule 335-3-5-.03(1)
			20 ppbv offsite	Rule 335-3-5-.03(2)
		Opacity	<=20 % <40%	Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)

Applicability:

- ADEM Admin. Code R. 335-3-4-.01, "*Visible Emissions*" for Control of Particulate Emissions is applicable to stationary sources. The thermal oxidizer would be subject to the requirements of this regulation.

Emission Standards:

- The thermal oxidizer is required to meet the 20% and 40% opacity requirement as specified in ADEM Admin. Code R. 335-3-4-.01(1) (a) and (b).

Compliance and Performance Test Methods and Procedures:

- Compliance with the visible emission standards shall be met by conducting a daily visual inspection of the thermal oxidizer. Provided that visible emissions are observed, a visible emissions observation (veo) of the thermal oxidizer shall be conducted as specified in the opacity monitoring section for units subject to the state opacity rule. A daily visible emissions observation is not required on the thermal oxidizer.

Emission Monitoring:

- Opacity monitoring for the thermal oxidizer shall be conducted according to the opacity monitoring section for units subject to the state opacity rule when visible emissions are observed. Opacity monitoring shall utilize either EPA Test Method 9 or Method 22.

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Recordkeeping and Reporting Requirements:

- Except when the thermal oxidizer is not operating, a record of the daily visual inspections of the thermal oxidizer shall be maintained indicating the date and time of the inspection and whether visible emissions were observed. Provided that visible emissions are observed during the visual inspection, a record of the visible emissions observation specifying the date, time, and duration of the visible emissions and any corrective actions taken shall be maintained.

Applicability:

- ADEM Admin. Code R. 335-3-5-.03(1), "*Petroleum Production*" applies to the control of sulfur compound emissions from each petroleum production facility that handles gas or refinery gas that contains more than 0.10 grains of hydrogen sulfide (H₂S) per standard cubic foot (scf). The Chunchula Plant handles sour gas that contains 0.10 grain of H₂S/scf or more; therefore, the facility is subject to the applicable requirements of this regulation. The facility uses the sulfur recovery plant and the thermal oxidizer to comply with this regulation.

Emission Standards:

- In order to meet the applicability requirements of ADEM Admin. Code R. 335-3-5-.03(1), all process gas containing greater than the 0.10 grains of H₂S/scf shall be burned to the extent that the ground level concentrations of hydrogen sulfide are less than twenty (20) parts per billion beyond plant property limits, averaged over a thirty (30) minute period (335-3-5-.03(2)). Except when being depressurized and/or emptied, venting to the atmosphere shall not exceed 15 continuous minutes.
- SO₂ emissions from a facility designed to dispose of or process natural gas or refinery gas containing more than 0.10 grain of H₂S/scf are unlimited provided that the available sulfur does not exceed 5 long tons per day (Ltons/day) (335-3-5-.03(3)). Since the Chunchula Plant is located in Mobile County which is a Category I County and its available sulfur is not expected to be greater than 5 Ltons/day, its SO₂ emissions are unlimited.

Compliance and Performance Test Methods and Procedures:

- Compliance with the requirement to burn gas containing 0.10 grains of H₂S/scf is demonstrated by capturing and routing the tail gas from the SRU to the thermal oxidizer. During emergency situations, the tail gas from the SRU is burned in the emergency flare. Compliance is also met by sampling and testing all sour gas streams that can be vented to atmosphere for its H₂S content (mol %).
- Compliance with the requirement to maintain the ground level concentrations of hydrogen sulfide at less than twenty (20) parts per billion beyond plant property limits averaged over a thirty (30) minute period shall be met by maintaining the H₂S feedrate to the thermal oxidizer at 500 lb/hr or less.

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Emission Monitoring:

- Monitoring to demonstrate compliance with the requirement to burn gas with more than 0.10 grains of H₂S per scf shall be met for the thermal oxidizer by periodically monitoring the inlet feed volume and analyzing the inlet feed monthly for its H₂S content.

Recordkeeping and Reporting Requirements:

- A daily record of the thermal oxidizer firebox temperature [°F], the volume of sour gas burned in the thermal oxidizer [Mscf/day], sour gas stream H₂S feedrate [Lbs/Day], thermal oxidizer H₂S feedrate [Lbs/Day], thermal oxidizer operating hours [Hours/Day], SO₂ emissions [Lbs/Hr] and deviation reports are required.
- A Periodic Monitoring Report (PMR) that identifies each incidence of a deviation from a permit term or condition, including those that occur during startups and shutdowns shall be prepared and submitted to the Department. The PMR report shall be submitted semi-annually on a calendar basis within 30 days of the end of the reporting period.

Applicability:

- ADEM Admin. Code R. 335-3-16-.03, "*Major Source Operating Permits*". The thermal oxidizer is located at a facility that is subject to MSOP regulations; therefore, the thermal oxidizer shall be subject to these regulations also.

Applicability:

- 40 CFR 64, "*Compliance Assurance Monitoring (CAM)*". The thermal oxidizer is subject to the requirements of this regulation because it meets all of the following criteria: the thermal oxidizer is subject to an emission limit or standard, a control device is used to achieve compliance with the emission limit or standard, and pre-controlled emissions are greater than 100 TPY for criteria pollutants, 10 TPY for a single hazardous air pollutant (HAP) or 25 TPY for a combination of HAPs (40 CFR §64.2(a)).

The thermal oxidizer is used as control device to comply with the work practice requirement to burn process gas containing 0.10 grains of H₂S/scf. As defined in the CAM regulation, an emission limitation may be expressed in the form of a work practice, process parameter or other form of specific design. Also the pre-controlled hydrogen sulfide emissions from the thermal oxidizer are expected to exceed the 100 TPY major source threshold for criteria pollutants; therefore, this unit is subject to CAM regulations.

Emission Standards:

- Burn all process gas containing greater than 0.10 grains of H₂S/scf to the thermal oxidizer.

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Compliance and Performance Test Methods and Procedures:

- Compliance with the requirement to burn each process gas stream containing 0.10 grains of H₂S/scf shall be demonstrated by maintaining the thermal oxidizer firebox temperature at 900 °F.

Emission Monitoring:

- CAM is met by continuously monitoring the thermal oxidizer firebox with a thermocouple or equivalent device.

Recordkeeping and Reporting Requirements:

- A daily record of the thermal oxidizer firebox temperature and any deviations shall be maintained.

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

EMERGENCY FLARE EMISSIONS

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
(29-601) Flare No. 1- Facility Emergency Flare		SO ₂	Unlimited provided that the available sulfur is less than or equal to 5 LTons/day	Rule 335-3-5-.03(3)
		H ₂ S	Burn gas with 0.10 grains of H ₂ S/scf	Rule 335-3-5-.03(1)
			20 ppbv offsite	Rule 335-3-5-.03(2)
		Opacity	Smokeless	40 CFR 60.18 Subpart KKK & 40 CFR 63.11 Subpart HH

Applicability:

- ADEM Admin. Code R. 335-3-4-.01, "*Visible Emissions*" for Control of Particulate Emissions is applicable to stationary sources. The emergency flare would not be subject to the requirements of this regulation. This flare is used to comply with 40 CFR 60 Subpart KKK and 40 CFR 63 Subpart HH; therefore, it is required to meet the requirement for no visible emission (smokeless flare), except for five minutes in a two hour period.

Applicability:

- ADEM Admin. Code R. 335-3-5-.03(1), "*Petroleum Production*" applies to the control of sulfur compound emissions from each petroleum production facility that handles gas or refinery gas that contains more than 0.10 grains of hydrogen sulfide (H₂S) per standard cubic foot (scf). The Chunchula Plant handles sour gas that contains 0.10 grain of H₂S/scf or more; therefore, the facility is subject to the applicable requirements of this regulation. The facility uses the emergency flare to comply with this regulation during emergencies when the tail gas from the sulfur recovery unit is routed to the flare and to burn excess sweetened gas.

Emission Standards:

- In order to meet the applicability requirements of ADEM Admin. Code R. 335-3-5-.03(2), all process gas containing greater than the 0.10 grains of H₂S/scf shall be burned to the extent that the ground level concentrations of hydrogen sulfide are less than twenty (20) parts per billion beyond plant property limits, average over a thirty (30) minute period.
- SO₂ emissions from a facility designed to dispose of or process natural gas or refinery gas

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

EMERGENCY FLARE EMISSIONS

containing more than 0.10 grain of H₂S/scf are unlimited provided that the available sulfur does not exceed 5 long tons per day (Ltons/day) (335-3-5-.03(3)). Since the Chunchula Plant is located in Mobile County which is a Category I County and its available sulfur is not expected to be greater than 5 Ltons/day, its SO₂ emissions are unlimited.

Compliance and Performance Test Methods and Procedures:

- Compliance with the requirement to burn gas containing 0.10 grains of H₂S/scf is demonstrated by routing tail gas from the SRU to the emergency flare to be burned during emergencies. Compliance is also met by testing each process streams that can be vented to atmosphere for its H₂S content (mol %) no less than once each month and testing each process stream for its VOC weight percent [VOC Wt%], molecular weight [Mol Wt], and Btu content [Btu/scf] no less than once each 12 months.
- Compliance with the requirement to maintain the ground level concentrations of hydrogen sulfide at less than twenty (20) parts per billion beyond plant property limits averaged over a thirty (30) minute period shall be met by maintaining the H₂S feedrate to the flare at 500 lb/hr or less.

Emission Monitoring:

- Monitoring to demonstrate compliance with the requirement to burn gas with more than 0.10 grains of H₂S per scf shall be met for the emergency flare by periodically monitoring the inlet feed volume and analyzing the inlet feed monthly for its H₂S content.

Recordkeeping and Reporting Requirements:

- A monthly record of the volume of gas burned in the emergency flare [Mscf/Month], gas stream heat input [MMBtu/hr], Stream H₂S feedrate [Lbs/Month], Flare H₂S feedrate [Lbs/Month], Flare operating hours [Hours/Month], Flare SO₂ emissions [Lbs/Month] and deviation reports are required.
- A Periodic Monitoring Report (PMR) that identifies each incidence of a deviation from a permit term or condition, including those that occur during startups and shutdowns shall be prepared and submitted to the Department. The PMR report shall be submitted semi-annually on a calendar basis within 30 days of the end of the reporting period.

Applicability:

- ADEM Admin. Code R. 335-3-16-.03, "Major Source Operating Permits". The emergency flare is located at a facility that is subject to MSOP regulations; therefore, the emergency flare shall be subject to these regulations also.

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

EMERGENCY FLARE EMISSIONS

Applicability:

- The emergency flare is used by the facility to comply with 40 CFR 60 Subpart KKK, *"Standards of Performance for Equipment Leaks of Volatile Organic Compounds (VOC) From Onshore Natural Gas Processing Plants"*. 40 CFR §60.633 (d) requires that a flare used to comply with the requirement of this subpart meet 40 CFR §60.18 (b) of Subpart A, *"General Provisions"*.

The emergency flare is also used by the facility to comply with 40 CFR 63 Subpart HH, *"National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities"*. 40 CFR §63.771(d)(1)(iii) requires that a flare used as a control device to reduce HAP emissions be designed and operated in accordance with the requirements of 40 CFR §63.11 (b) of Subpart A, *"General Provisions"*.

Emission Standards:

- To demonstrate compliance with 40 CFR 60 Subpart KKK and 40 CFR 63 Subpart HH, the emergency flare shall meet the following requirements:
 - Be designed for and operated with no visible emissions, except for a 5-minute period during any consecutive 2-hour period (40 CFR §60.18 (c)(1) and 40 CFR §63.11(b)(4))
 - Operate at all times when emissions may be vented to them (40 CFR §60.18 (e) and 40 CFR §63.11(b)(3))
 - Operate with a flame present at all times (40 CFR §60.18 (c)(2) and 40 CFR §63.11(b)(5))
 - Shall be steam-assisted, air-assisted, or nonassisted (40 CFR §60.18 (c)(6) and 40 CFR §63.11(b)(2))
 - Shall adhere to either the heat content specifications found in §63.11(b)(6)(ii) (§60.18 (c)(3)(ii) for Subpart KKK) and the maximum tip velocity specifications in §63.11(b)(7) or (b)(8) (§60.18 (c)(4) for Subpart KKK) or the requirements of §63.11(b)(6)(i) (§60.18 (c)(3)(i) for Subpart KKK) (40 CFR §63.11(b)(6) and §60.18 (c)(3))

Compliance and Performance Test Methods and Procedures:

- Compliance with the visible emission standards shall be met by conducting a daily visible emission observation of the emergency flare as specified in the opacity monitoring section of the existing permit for the emergency flare. Opacity monitoring shall utilize either EPA Test Method 22.

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

EMERGENCY FLARE EMISSIONS

Emission Monitoring:

- Monitoring for the emergency flare shall be met by meeting the periodic monitoring and CAM plans for the flare.
- Opacity monitoring for the emergency flare shall be performed using EPA Test Method 22 of 40 CFR Part 60.

Recordkeeping and Reporting Requirements:

- Except when the emergency flare is not operating, a record of daily visible emission observations shall be maintained.

Applicability:

- 40 CFR 64, "*Compliance Assurance Monitoring (CAM)*". The emergency flare is subject to the requirements of this regulation because it meets all of the following criteria: the emergency flare is subject to an emission limit or standard, a control device is used to achieve compliance with the emissions limit or standard, and pre-controlled emissions are greater than 100 TPY for criteria pollutants, 10 TPY for a single hazardous air pollutant (HAP) or 25 TPY for a combination of HAPs (40 CFR §64.2(a)).

The emergency flare is used as control device to comply with the work practice requirement to burn process gas containing 0.10 grains of H₂S/scf when the thermal oxidizer unit is not operating. As defined in the CAM regulation, an emission limitation may be expressed in the form of a work practice, process parameter or other form of specific design. Also the pre-controlled hydrogen sulfide emissions from the flare are expected to exceed the 100 TPY major source threshold for criteria pollutants during emergencies; therefore, this unit is subject to CAM regulations.

Emission Standards:

- Burn all process gas containing greater than the 0.10 grains of H₂S/scf to the emergency flare.

Compliance and Performance Test Methods and Procedures:

- Compliance with the requirement to burn each process gas stream containing 0.10 grains of H₂S/scf shall be demonstrated by maintaining the presence of a flame or spark at the flare tip at all times when a process gas stream may be sent to it. A visual inspection of the emergency flare for the presence of a flame or spark at the flare tip shall be conducted daily if a continuous sparking flame igniter or continuous burning pilot light is not used.

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

EMERGENCY FLARE EMISSIONS

Emission Monitoring:

- CAM is met by monitoring the emergency flare as required by equipping the flare tip with a continuous sparking flame igniter, with a continuous burning pilot light, or by conducting a visual observation.

Recordkeeping and Reporting Requirements:

- Provided that a daily visual inspection is conducted on the flare to verify the presence of a spark or flame at the flare tip, a record of the time, date, and results of the inspection and any corrective actions shall be maintained.
- Provided that a flame igniter or pilot flame monitor is used to verify the presence of a spark or flame at the flare tip, records of the time, date and results of each calibration shall be maintained.
- A record of the time, date, and corrective actions shall be maintained for each occurrence when there was not a spark or flame present at the flare tip and process gas could be sent to the flare.

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

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**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

STORAGE TANKS

Emission Point	Description	Pollutant	Emission Limit	Regulations
Individual Sources:				
(33-701A)	630,000 Gallon Condensate Storage Tank	VOC		40 CFR 60 Subpart K _a
(33-701B)	630,000 Gallon Condensate Storage Tank	VOC		40 CFR 60 Subpart K _a

Applicability:

- Each storage vessel with a storage capacity greater than 40,000 gallons that is used to store petroleum liquids for which construction, reconstruction, or modification commenced after May 18, 1978 and prior to July 23, 1984 is an affected facility under 40 CFR 60 Subpart K_a, “Standards of Performance for Storage Vessels for Petroleum Liquids”. The Chunchula Plant requested a temporary authorization to operate the (2) 630,000 gallon storage on May 31, 1978; therefore, the plant is subject to the requirements of this subpart (§60.110a(a) of 40 CFR 60 Subpart K_a).

Emission Standards:

- Each storage vessel which contains a petroleum liquid which, as stored, has a true vapor pressure equal to or greater than 1.5 psia, but not greater than 11.1 psia shall be equipped with one of the following:
 - An external floating roof consisting of a pontoon-type or double-deck-type cover that rests on the surface of the liquid contents and is equipped with a closure device between the tank wall and the roof edge (§60.112a(a)(1)).
 - A fixed roof with an internal floating type cover equipped with a continuous closure device between the tank wall and the cover edge (§60.112a(a)(2)).
 - A vapor recovery system which collects all VOC vapors and gases discharged from the storage vessel and a vapor return or disposal system which is designed to process such VOC vapors and gases so as to reduce their emissions to the atmosphere by at least 95% by weight (§60.112a(a)(3)).
 - A system equivalent to those above as provided in §60.114a for alternative means of emission limitations (§60.112a(a)(4))
- Each storage vessel which contains a petroleum liquid which, as stored, has a true vapor pressure greater than 11.1 psia shall be equipped with a vapor recovery system which collects all VOC vapors and gases discharged from the storage vessel and a vapor return or disposal system which is designed to process such VOC vapors and gases so as to reduce their emissions to the atmosphere by at least 95% by weight (§60.112a(b))

In the renewal application for the plant, the true vapor pressure of the condensate stored

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

STORAGE TANKS

in the 630,000 gallon storage vessels is 6.2 psia and the facility elected to install a vapor recovery system on the tanks that is routed to the flare to comply with this subpart.

- Owners or operators may choose an alternative means of compliance with this subpart by complying with 40 CFR Part 65, Subpart C to satisfy the requirements of 60.112a through 60.114a for storage vessels that are subject to this subpart and that store petroleum liquids that, as stored, have a maximum true vapor pressure equal to or greater than 1.5 psia (§60.110a(c)(1) of 40 CFR 60 Subpart K_a).

If 40 CFR Part 65, Subpart C is complied with the following requirements found in 40 CFR 60 Subpart A, General Provisions shall also be complied with for storage vessels: §60.1, §60.2, §60.5, §60.6, §60.7(a)(1) and (4), §60.14, §60.15, and §60.16 (§60.110a(c)(2) of 40 CFR 60 Subpart K_a)

Compliance and Performance Test Methods and Procedures:

- Except as provided in §60.8(b), compliance with the emission standards shall be determined as follows or in accordance with an equivalent procedure as provided in §60.114a (§60.113a(a) of 40 CFR 60 Subpart K_a) :
 - Meet the testing and procedure requirements of §60.113a(a)(1) for storage vessels with an external floating roof
 - Meet the testing and procedure requirements of §60.113a(a)(2) for storage vessels with a vapor recovery and return or disposal system

Emission Monitoring:

- Emission monitoring shall be met by maintaining the records as required in the recordkeeping and reporting section of this subpart of this permit.

Recordkeeping and Reporting Requirements:

- A record of the petroleum liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period shall be maintained, except as specified in the following (§60.115a of 40 CFR 60 Subpart K_a) :
 - Each storage vessel storing a petroleum liquid with a Reid vapor pressure of less than 1.0 psia provided the maximum true vapor pressure does not exceed 1.0 psia is exempt from maintaining records (§60.115a(d)(1)).
 - Each storage vessel equipped with a vapor recovery and return or disposal system in accordance with the requirements of §60.112a(a)(3) and (b), or a closed vent system and control device meeting the specifications of 40 CFR 65.42(b)(4), (b)(5), or (c), is exempt from maintaining records (§60.115a(d)(2)).

CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005

Recommendations:

The facility has requested to add a 240 HP emergency generator engine. After review, the Department determined that this unit should be able to meet the applicable state and federal regulations and issued an air permit on October 30, 2009. At the request of the facility, this unit will be included in this renewal.

After thoroughly reviewing the facility files, it was determined that the Chunchula Plant should be subject to the applicable requirements of 40 CFR 60 Subpart K_a for the two 630,000 gallon condensate storage tank. This regulation was not addressed in the past major source operating permits; however, the facility demonstrates compliance with this regulation by using a vapor recovery unit on the storage tanks and routing the vapors to the emergency flare for combustion. This regulation has now been addressed in the facility's renewal.

The facility has also requested that the Department distinguish between daily observations for opacity monitoring and visible emission observations when visible emissions are observed. Daily observations or daily visual inspections are required for the engines and thermal oxidizer. The daily visual inspections require that the facility perform an inspection of the unit's stacks to determine the absence or presence of visible emissions. Provided visible emissions are observed, the facility must then conduct a visible emissions observation which requires the use of EPA's Method 9 or Method 22. The facility is required to maintain a record demonstrating that they perform a daily visual inspection of these units and a record demonstrating that a visible emission observation was conducted when necessary.

A daily visible emission observation is only required for the emergency flare as specified in the opacity monitoring for the emergency flare. The permit requires that the facility conduct the daily visible emissions observation using EPA's Method 22 for the period specified in the opacity monitoring section of the permit for the flare. A visible emissions observation on the flare shall occur daily regardless of if there is the presence or absence of visible emissions.

After reviewing the facility files, the permit application, and the applicable state and federal regulations, the Chunchula Plant should be able to comply with and meet the requirements of its permit. Therefore, I recommend that Union Oil of California (d.b.a. UNOCAL) be issued a second renewal of its MSOP No.: 503-4005 for the Chunchula Gas Treating and Processing Facility.

November 12, 2009
Draft Date

**CHUNCHULA GAS TREATING AND PROCESSING FACILITY
FACILITY NO.: 503-4005**

APPENDIX A

DRAFT PROVISOS

DRAFT



MAJOR SOURCE OPERATING PERMIT

Permittee: **UNION OIL COMPANY OF CALIFORNIA DBA UNOCAL**

Facility Name: **CHUNCHULA PRODUCTION, GAS TREATING AND PROCESSING FACILITY**

Facility No.: 503-4005

Location: 12303 Roberts Rd., Chunchula, Mobile Co., AL

In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Ala. Code 1975, §§22-28-1 to 22-28-23 (2006 Rplc. Vol.) (the "AAPCA") and the Alabama Environmental Management Act, as amended, Ala. Code 1975, §§22-22A-1 to 22-22A-15, (2006 Rplc. Vol.) and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.

*Pursuant to the **Clean Air Act of 1990**, all conditions of this permit are federally enforceable by EPA, the Alabama Department of Environmental Management, and citizens in general. Those provisions which are not required under the **Clean Air Act of 1990** are considered to be state permit provisions and are not federally enforceable by EPA and citizens in general. Those provisions are contained in separate sections of this permit.*

Issuance Date: *Draft*
December 14, 2009

Expiration Date: *April 12, 2015*

DRAFT

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General Permit Provisos

Federally Enforceable Provisos	Regulations
<p>1. <u>Transfer</u> This permit is not transferable, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another, or from one person to another, except as provided in Rule 335-3-16-.13(1)(a)5.</p> <p>2. <u>Renewals</u> An application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of this permit. The source for which this permit is issued shall lose its right to operate upon the expiration of this permit unless a timely and complete renewal application has been submitted within the time constraints listed in the previous paragraph.</p> <p>3. <u>Severability Clause</u> The provisions of this permit are declared to be severable and if any section, paragraph, subparagraph, subdivision, clause, or phrase of this permit shall be adjudged to be invalid or unconstitutional by any court of competent jurisdiction, the judgment shall not affect, impair, or invalidate the remainder of this permit, but shall be confined in its operation to the section, paragraph, subparagraph, subdivision, clause, or phrase of this permit that shall be directly involved in the controversy in which such judgment shall have been rendered.</p> <p>4. <u>Compliance</u></p> <p style="padding-left: 40px;">(a) The permittee shall comply with all conditions of ADEM Admin. Code 335-3. Noncompliance with this permit will constitute a violation of the Clean Air Act of 1990 and ADEM Admin. Code 335-3 and may result in an enforcement action; including but not limited to, permit termination, revocation and reissuance, or modification; or denial of a permit renewal application by the permittee.</p> <p style="padding-left: 40px;">(b) The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.</p>	<p>Rule 335-3-16-.02(6)</p> <p>Rule 335-3-16-.12(2)</p> <p>Rule 335-3-16-.05(e)</p> <p>Rule 335-3-16-.05(f)</p> <p>Rule 335-3-16-.05(g)</p>

General Permit Provisos

Federally Enforceable Provisos	Regulations
<p>5. <u>Termination for Cause</u></p> <p>This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance will not stay any permit condition.</p> <p>6. <u>Property Rights</u></p> <p>The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.</p> <p>7. <u>Submission of Information</u></p> <p>The permittee must submit to the Department, within 30 days or for such other reasonable time as the Department may set, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon receiving a specific request, the permittee shall also furnish to the Department copies of records required to be kept by this permit.</p> <p>8. <u>Economic Incentives, Marketable Permits, and Emissions Trading</u></p> <p>No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.</p> <p>9. <u>Certification of Truth, Accuracy, and Completeness:</u></p> <p>Any application form, report, test data, monitoring data, or compliance certification submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.</p>	<p>Rule 335-3-16-.05(h)</p> <p>Rule 335-3-16-.05(i)</p> <p>Rule 335-3-16-.05(j)</p> <p>Rule 335-3-16-.05(k)</p> <p>Rule 335-3-16-.07(a)</p>

General Permit Provisos

Federally Enforceable Provisos	Regulations
<p>10. <u>Inspection and Entry</u></p> <p>Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized representatives of the Alabama Department of Environmental Management and EPA to conduct the following:</p> <ul style="list-style-type: none"> (a) Enter upon the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept pursuant to the conditions of this permit; (b) Review and/or copy, at reasonable times, any records that must be kept pursuant to the conditions of this permit; (c) Inspect, at reasonable times, this facility's equipment (including monitoring equipment and air pollution control equipment), practices, or operations regulated or required pursuant to this permit; (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or other applicable requirements. 	<p>Rule 335-3-16-.07(b)</p>
<p>11. <u>Compliance Provisions</u></p> <ul style="list-style-type: none"> (a) The permittee shall continue to comply with the applicable requirements with which the company has certified that it is already in compliance. (b) The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit. 	<p>Rule 335-3-16-.07(c)</p>
<p>12. <u>Compliance Certification</u></p> <p>A compliance certification shall be submitted annually on or before June 12th.</p> <ul style="list-style-type: none"> (a) The compliance certification shall include the following: <ul style="list-style-type: none"> (1) The identification of each term or condition of this permit that is the basis of the certification; 	<p>Rule 335-3-16-.07(e)</p>

General Permit Provisos

Federally Enforceable Provisos	Regulations
<p>(2) The compliance status;</p> <p>(3) The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with Rule 335-3-16-.05(c) (Monitoring and Recordkeeping Requirements);</p> <p>(4) Whether compliance has been continuous or intermittent;</p> <p>(5) Such other facts as the Department may require to determine the compliance status of the source;</p> <p>(b) The compliance certification shall be submitted to:</p> <p style="padding-left: 40px;">Alabama Department of Environmental Management Air Division P.O. Box 301463 Montgomery, AL 36130-1463 and to:</p> <p style="padding-left: 40px;">Air and EPCRA Enforcement Branch EPA Region IV 61 Forsyth Street, SW Atlanta, GA 30303</p>	
<p>13. <u>Reopening for Cause</u></p> <p>Under any of the following circumstances, this permit will be reopened prior to the expiration of the permit:</p> <p>(a) Additional applicable requirements under the Clean Air Act of 1990 become applicable to the permittee with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire.</p>	<p>Rule 335-3-16-.13(5)</p>

General Permit Provisos

Federally Enforceable Provisos	Regulations
<p>(b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit.</p> <p>(c) The Department or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.</p> <p>(d) The Administrator or the Department determines that this permit must be revised or revoked to assure compliance with the applicable requirements.</p>	
<p>14. <u>Additional Rules and Regulations</u></p>	
<p>This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.</p>	<p>§22-28-16(d), Code of Alabama 1975, as amended</p>
<p>15. <u>Equipment Maintenance or Breakdown</u></p>	
<p>(a) In the case of shutdown of air pollution control equipment (which operates pursuant to any permit issued by the Director) for necessary scheduled maintenance, the intent to shut down such equipment shall be reported to the Director at least twenty-four (24) hours prior to the planned shutdown, unless such shutdown is accompanied by the shutdown of the source which such equipment is intended to control. Such prior notice shall include, but is not limited to the following:</p> <p>(1) Identification of the specific facility to be taken out of service as well as its location and permit number;</p> <p>(2) The expected length of time that the air pollution control equipment will be out of service;</p>	<p>Rule 335-3-1-.07(1), (2)</p>

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Federally Enforceable Provisos	Regulations
<p>(3) The nature and quantity of emissions of air contaminants likely to occur during the shutdown period;</p> <p>(4) Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period;</p> <p>(5) The reasons that it would be impossible or impractical to shut down the source operation during the maintenance period.</p> <p>(b) In the event that there is a breakdown of equipment or upset of process in such a manner as to cause, or is expected to cause, increased emissions of air contaminants which are above an applicable standard, the person responsible for such equipment shall notify the Director within 24 hours or the next working day and provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The Director shall be notified when the breakdown has been corrected.</p>	
<p>16. <u>Operation of Capture and Control Devices</u></p> <p>All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.</p>	<p>§22-28-16(d), Code of Alabama 1975, as amended</p>
<p>17. <u>Obnoxious Odors</u></p> <p>This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.</p>	<p>Rule 335-3-1-.08</p>

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<p>18. <u>Fugitive Dust</u></p> <p>(a) Precautions shall be taken to prevent fugitive dust emanating from plant roads, grounds, stockpiles, screens, dryers, hoppers, ductwork, etc.</p> <p>(b) Plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne. A minimum of one, or a combination, of the following methods shall be utilized to minimize airborne dust from plant or haul roads and grounds:</p> <ol style="list-style-type: none"> (1) By the application of water any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the act of wind or vehicular traffic; (2) By reducing the speed of vehicular traffic to a point below that at which dust emissions are created; (3) By paving; (4) By the application of binders to the road surface at any time the road surface is found to allow the creation of dust emissions; <p>Should one, or a combination, of the above methods fail to adequately reduce airborne dust from plant or haul roads and grounds, alternative methods shall be employed, either exclusively or in combination with one or all of the above control techniques, so that dust will not become airborne. Alternative methods shall be approved by the Department prior to utilization.</p>	<p>Rule 335-3-4-.02</p>
<p>19. <u>Additions and Revisions</u></p> <p>Any modifications to this source shall comply with the modification procedures in Rules 335-3-16-.13 or 335-3-16-.14.</p>	<p>Rule 335-3-16-.13 and .14</p>
<p>20. <u>Recordkeeping Requirements</u></p> <p>(a) Records of required monitoring information of the source shall include the following:</p>	<p>Rule 335-3-16-.05(c)2.</p>

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<p>(1) The date, place, and time of all sampling or measurements;</p> <p>(2) The date analyses were performed;</p> <p>(3) The company or entity that performed the analyses;</p> <p>(4) The analytical techniques or methods used;</p> <p>(5) The results of all analyses; and</p> <p>(6) The operating conditions that existed at the time of sampling or measurement.</p> <p>(b) Retention of records of all required monitoring data and support information of the source for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by the permit</p>	
<p>21. <u>Reporting Requirements</u></p> <p>(a) Reports to the Department of any required monitoring shall be submitted at least every 6 months. All instances of deviations from permit requirements must be clearly identified in said reports. All required reports must be certified by a responsible official consistent with Rule 335-3-16-.04(9).</p> <p>(b) Deviations from permit requirements shall be reported within 48 hours or 2 working days of such deviations, including those attributable to upset conditions as defined in the permit. The report will include the probable cause of said deviations, and any corrective actions or preventive measures that were taken.</p>	<p>Rule 335-3-16-.05(c)3.</p>

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<p>22. Emission Testing Requirements</p> <p>Each point of emission which requires testing will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.</p> <p>The Air Division must be notified in writing at least 10 days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations. To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:</p> <p>(1) The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.</p> <p>(2) A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedures require probe cleaning).</p> <p>(3) A description of the process(es) to be tested including the feed rate, any operating parameters used to control or influence the operations, and the rated capacity.</p> <p>(4) A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.</p> <p>A pretest meeting may be held at the request of the source owner or the Air Division. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.</p> <p>All test reports must be submitted to the Air Division within 30 days of the actual completion of the test unless an extension of time is specifically approved by the Air Division.</p>	<p>Rule 335-3-1-.05(3) and Rule 335-3-1-.04(1)</p> <p>Rule 335-3-1-.04</p> <p>Rule 335-3-1-.04</p>

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<p>23. <u>Payment of Emission Fees</u></p> <p>Annual emission fees shall be remitted each year according to the fee schedule in ADEM Admin. Code R. 335-1-7-.04.</p>	<p>Rule 335-1-7-.04</p>
<p>24. <u>Other Reporting and Testing Requirements</u></p> <p>Submission of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require emission testing at any time.</p>	<p>Rule 335-3-1-.04(1)</p>
<p>25. <u>Title VI Requirements (Refrigerants)</u></p> <p>Any facility having appliances or refrigeration equipment, including air conditioning equipment, which use Class I or Class II ozone-depleting substances as listed in 40 CFR Part 82, Subpart A, Appendices A and B, shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82, Subpart F.</p> <p>No person shall knowingly vent or otherwise release any Class I or Class II substance into the environment during the repair, servicing, maintenance, or disposal of any device except as provided in 40 CFR Part 82, Subpart F.</p> <p>The responsible official shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the US EPA and the Department as required.</p>	<p>40 CFR Part 82</p>
<p>26. <u>Chemical Accidental Prevention Provisions</u></p> <p>If a chemical listed in Table 1 of 40 CFR Part 68.130 is present in a process in quantities greater than the threshold quantity listed in Table 1, then:</p> <ul style="list-style-type: none"> (a) The owner or operator shall comply with the provisions in 40 CFR Part 68. (b) The owner or operator shall submit one of the following: <ul style="list-style-type: none"> (1) A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR Part 68 § 68.10(a) or, 	<p>40 CFR Part 68</p>

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<p>(2) A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan.</p>	
<p>27. <u>Display of Permit</u></p> <p>This permit shall be kept under file or on display at all times at the site where the facility for which the permit is issued is located and will be made readily available for inspection by any or all persons who may request to see it.</p>	<p>Rule 335-3-14-.01(1)(d)</p>
<p>28. <u>Circumvention</u></p> <p>No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes any emission of air contaminant which would otherwise violate the Division 3 rules and regulations.</p>	<p>Rule 335-3-1-.10</p>
<p>29. <u>Visible Emissions</u></p> <p>Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.</p>	<p>Rule 335-3-4-.01(1)</p>
<p>30. <u>Fuel-Burning Equipment</u></p> <p>(a) Unless otherwise specified in the Unit Specific provisos of this permit, no fuel-burning equipment may discharge particulate emissions in excess of the emissions specified in Part 335-3-4-.03.</p> <p>(b) Unless otherwise specified in the Unit Specific provisos of this permit, no fuel-burning equipment may discharge sulfur dioxide emissions in excess of the emissions specified in Part 335-3-5-.01.</p>	<p>Rule 335-3-4-.03</p> <p>Rule 335-3-5-.01</p>
<p>31. <u>Process Industries – General</u></p> <p>Unless otherwise specified in the Unit Specific provisos of this permit, no process may discharge particulate emissions in excess of the emissions specified in Part 335-3-4-.04.</p>	<p>Rule 335-3-4-.04</p>

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<p>32. <u>Averaging Time for Emission Limits</u></p> <p>Unless otherwise specified in the permit, the averaging time for the emission limits listed in this permit shall be the nominal time required by the specific test method.</p>	<p>Rule 335-3-1-.05</p>
<p>33. <u>Compliance Assurance Monitoring (CAM)</u></p> <p>Conditions (a) through (d) that follow are general conditions applicable to emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the unit specific provisos and the attached CAM appendices.</p> <p>(a) Operation of Approved Monitoring</p> <p>(1) <i>Commencement of operation.</i> The owner or operator shall conduct the monitoring required under this section and detailed in the unit specific provisos and CAM appendix of this permit (if required) upon issuance of the permit, or by such later date specified in the permit pursuant to §64.6(d).</p> <p>(2) <i>Proper maintenance.</i> At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.</p> <p>(3) <i>Continued operation.</i> Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data</p>	<p>40 CFR 64.7</p>

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<p>collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.</p> <p>(4) <i>Response to excursions or exceedances.</i> (a) Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. (b) Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.</p>	

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<p>(5) <i>Documentation of need for improved monitoring.</i> After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the Department and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.</p> <p>(b) Quality Improvement Plan (QIP) Requirements</p> <p>(1) Based on the results of a determination made under Section 33(a)(4)(b) above, the Administrator or the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with 40 CFR §64.6(c)(3), the permit may specify an appropriate threshold, such as an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, for requiring the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.</p> <p>(2) Elements of a QIP:</p> <p>(i) The owner or operator shall maintain a written QIP, if required, and have it available for inspection.</p>	<p>40 CFR 64.8</p>

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<p>(ii) The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:</p> <ul style="list-style-type: none"> (I) Improved preventive maintenance practices. (II) Process operation changes. (III) Appropriate improvements to control methods. (IV) Other steps appropriate to correct control performance. (V) More frequent or improved monitoring (only in conjunction with one or more steps under paragraphs (2)(b)(i) through (iv) above). <p>(3) If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the Department if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.</p> <p>(4) Following implementation of a QIP, upon any subsequent determination pursuant to Section 33(a)(4)(b) above, the Department may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:</p> <ul style="list-style-type: none"> (i) Failed to address the cause of the control device performance problems; or 	

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<p>(ii) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.</p> <p>(5) Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.</p> <p>(c) Reporting and Recordkeeping Requirements</p> <p>(1) General reporting requirements</p> <p>(i) On and after the date specified in Section 33(a)(1) above by which the owner or operator must use monitoring that meets the requirements of this part, the owner or operator shall submit monitoring reports to the permitting authority in accordance with ADEM Admin. Code R. 335-3-16-.05(c)3.</p> <p>(ii) A report for monitoring under this part shall include, at a minimum, the information required under ADEM Admin. Code R. 335-3-16-.05(c)3. and the following information, as applicable:</p> <p>(I) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;</p>	<p>40 CFR 64.9</p>

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<p>(II) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and</p> <p>(III) A description of the actions taken to implement a QIP during the reporting period as specified in Section 33(b) above. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.</p> <p>(2) General recordkeeping requirements.</p> <p>(i) The owner or operator shall comply with the recordkeeping requirements specified in ADEM Admin. Code R. 335-3-16-.05(c)2.. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to Section 33(b) above and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).</p>	

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<p>(ii) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.</p> <p>(d) Savings Provisions</p> <p>(1) Nothing in this part shall:</p> <p>(i) Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this part shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.</p>	<p>40 CFR 64.10</p>

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<p>(ii) Restrict or abrogate the authority of the Department to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.</p> <p>(iii) Restrict or abrogate the authority of the Department to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.</p>	

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Summary Page for Utility Boilers

Permitted Operating Schedule: 24 Hours/Day x 365 Days/Year = **8,760** Hours/Year

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
25-301A	93 MMBTU/Hour, Gas Fired boiler No. 1	SO ₂	1.8 Lbs/MMBTU	Rule 335-3-5-.01(1)(a)
25-301B	93 MMBTU/Hour, Gas Fired boiler No. 2	SO ₂	1.8 Lbs/MMBTU	Rule 335-3-5-.01(1)(a)

Provisos for Utility Boilers

Federally Enforceable Provisos	Regulations
<i>Applicability</i>	
1. The boilers shall be subject to the requirements specified in Rule 335-3-5-.01(1)(a) for fuel combustion sources located in a Category I county.	Rule 335-3-5-.01
2. The boilers are located at a facility that meets the requirements specified in Rule 335-3-16-.03; therefore, the boilers shall be subject to Rule 335-3-16 and this subpart of this permit.	Rule 335-3-16-.03
<i>Emissions Standards</i>	
1. The boilers shall only burn natural gas as its fuel source.	
2. No person shall cause or permit the emission of sulfur dioxide from fuel-burning equipment in excess of 1.8 Lbs/MMBTU of heat input.	Rule 335-3-5-.01(a)
<i>Compliance and Performance Test Methods and Procedures</i>	
1. The fuel gas shall be tested for its BTU and hydrogen sulfide content in accordance to the requirements specified in provisos 1(a) through (c) of this section of this subpart.	Rule 335-3-16-.05(c)(1)(i) Rule 335-3-1-.05
(a) BTU and hydrogen sulfide content testing shall occur at a frequency of no less than once every six (6) months.	
(b) Each sample shall be analyzed for its BTU content by utilizing the ASTM Analysis Method D1826-77 or equivalent method.	
[Fuel Gas BTU/Scf]	
(c) Each sample collected shall be analyzed utilizing the Tutwiler procedures found in 40 CFR §60.648 or the chromatographic analysis procedures found in ASTM E-260 or the stain tube procedures found in GPA 2377-86 or those provided by the stain tube manufacture.	
[Fuel Gas (H ₂ S ppmv)]	
(d) The frequency of analysis may be modified upon receiving Departmental approval.	

Provisos for Utility Boilers

Federally Enforceable Provisos	Regulations
<p><i>Emission Monitoring</i></p> <p>1. Periodic monitoring in the form of the following record keeping is required.</p>	<p>Rule 335-3-1-.04</p>
<p><i>Recordkeeping and Reporting Requirements</i></p> <p>1. A monthly record of the following shall be maintained:</p> <p>(a) Type of fuel burned in the boilers</p> <p>(b) Facility fuel:</p> <p>(1) Heat content [Fuel Heat Content (BTU/Scf)]</p> <p>(2) Hydrogen sulfide content [Fuel H₂S (ppmv)]</p> <p>(c) Lbs SO₂/MMBTU =</p> $\frac{[\text{Fuel H}_2\text{S (ppmv)}] \times [0.1684]}{\text{Fuel Heat Content (BTU/Scf)}}$	<p>Rule 335-3-1-.04</p>

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Summary Page for Facility Engines

Permitted Operating Schedule: 24 Hours/Day x 365 Days/Year = 8,760 Hours/Year

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
NRU-1 & NRU-2	(2) 1,478 BHP, Four Stroke, Lean Burn Gas Fired Engines with catalytic converters—NRU East Engine & NRU West Engine	CO	$\leq 3.05 \frac{\text{Lbs}}{\text{hr}}$	Rule 335-3-14-.04 [Anti-PSD Limits]
		NO _x	$\leq 3.92 \frac{\text{Lbs}}{\text{hr}}$	Rule 335-3-14-.04 [Anti-PSD Limits]
		VOC	$\leq 2.48 \frac{\text{Lbs}}{\text{hr}}$	Rule 335-3-14-.04 [Anti-PSD Limits]
		Opacity	$< 20\%$ $< 40\%$	Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)
42-801A & 42-801B	(2) 2,500 BHP, 4 Stroke, Rich Burn, Gas Fired Engines with catalytic converters—Injection Compressor Nos. 1 & 2	Formaldehyde	$\leq 0.41 \frac{\text{Lbs}}{\text{hr}}$	40 CFR 63 Subpart ZZZZ §63.6585 & §63.6590 [MACT Avoidance]
		Opacity	$< 20\%$ $< 40\%$	Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)
42-101A, 42-101B, & 42-101C	(3) 600 BHP, 2 Stroke, Lean Burn, Gas Fired Engines with catalytic converters—Inlet (Flash) Gas Compressor Engines Nos. 1, 2, & 3	Formaldehyde	$\leq 0.28 \frac{\text{Lbs}}{\text{hr}}$	40 CFR 63 Subpart ZZZZ §63.6585 & §63.6590 [MACT Avoidance]
		Opacity	$< 20\%$ $< 40\%$	Rule 335-3-4-.01(1) Rule 335-3-4-.01(2)

Permitted Operating Schedule: 9,000 Hours/Year Total (Requested Permit Limit)

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
42-401A & 42-401B	(2) 2,500 BHP, 4 Stroke, Rich Burn, Gas Fired Engines with catalytic converters—Refrigeration Compressor Nos. 1 & 2	Formaldehyde	$\leq 0.41 \frac{\text{Lbs}}{\text{hr}}$	40 CFR 63 Subpart ZZZZ §63.6585 & §63.6590 [MACT Avoidance]
		Opacity	$< 20\%$	Rule 335-3-4-.01(1)

Provisos for Facility Engines

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<i>Applicability</i>	
1. For the purposes of this subpart of this permit, the term “Non-NRU Engines” shall mean the following emission points: 42-101A, 42-101B, 42-101C, 42-401A, 42-401B, 42-801A, and 42-801B. “NRU Engines” shall mean the following emission points: NRU-1 and NRU-2.	
2. The engines are subject to the applicable requirements of Rule 335-3-4-.01, “ <i>Visible Emissions</i> ” for Control of Particulate Emissions.	Rule 335-4-.01
3. The NRU Engines have emission limits which allow them to be synthetic minor sources of criteria pollutants when determining applicability to Prevention of Significant Deterioration regulations.	Rule 335-14-.04
4. The engines are located at a facility that meets the requirements specified in Rule 335-3-16-.03; therefore, the engines are subject to the applicable requirements of Rule 335-3-16, “ <i>Major Source Operating Permits</i> ”.	Rule 335-3-16-.03
5. The Non-NRU Engines are subject to 40 CFR 63 Subpart ZZZZ, “ <i>National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustions Engines</i> ”. With regards to the requirements of this subpart:	40 CFR 63 Subpart ZZZZ
(a) Each Non-NRU Engine has formaldehyde limits in place which allows the units to be synthetic minor sources of hazardous air pollutant (HAPs) for the purposes of determining applicability to major source requirements under this subpart.	§63.6585 §63.6590(a)(1)
(b) Existing stationary reciprocating internal combustion engines located at an area source of HAPs are exempt from having to meet the requirements of this subpart.	§63.6590(a)(1)(iii) §63.6590(b)(3)
6. The NRU Engines are subject to 40 CFR Part 64, “ <i>Compliance Assurance Monitoring</i> ” and proviso 33 of the <i>General Permit Provisos</i> subpart and this subpart of this permit.	40 CFR §64

Provisos for Facility Engines

Federally Enforceable Provisos	Regulations
<p><i>Emission Standards</i></p> <ol style="list-style-type: none"> 1. The NRU Engines shall each adhere to the following emission limits: <ol style="list-style-type: none"> (a) Carbon monoxide (CO) emissions shall not exceed 3.05 Lbs/hr. (b) Nitrogen oxide (NO_x) emissions shall not exceed 3.92 Lbs/hr. (c) Volatile Organic Compounds (VOC) emissions shall not exceed 2.48 Lbs/hr. (d) Emissions for these pollutants shall be accumulated over a twelve month period. 2. The Non-NRU Engines shall adhere to the following emission limits: <ol style="list-style-type: none"> (a) Each of the two (2) 2,500 BHP Injection Compressor Engines may not emit more than 0.41 lb/hr of Formaldehyde. (b) Each of the three (3) 600 BHP Inlet Gas Compressor Engines may not emit more than 0.28 lb/hr of Formaldehyde. (c) Each of the two (2) 2,500 BHP Refrigeration Compressor Engines may not emit more than 0.41 lb/hr of Formaldehyde. The combined operating hours for these engines may not exceed a total of 9,000 hours during any consecutive 12-month period. 3. The engines shall meet the requirements specified in 3(a) and (b) of this section of this subpart. <ol style="list-style-type: none"> (a) Except for one 6-minute period during any 60-minute period, the engines shall not discharge into the atmosphere particulate that results in an opacity greater than 20%, as determined by a 6-minute average. 	

Rule 335-14-.04

§63.6585
§63.6590(a)(1)

Rule 335-3-4-.01(1)

Provisos for Facility Engines

Federally Enforceable Provisos	Regulations
<p>(b) At no time shall the engines discharge into the atmosphere particulate that results in an opacity greater than 40%, as determined by a 6-minute average.</p> <p>4. Each NRU Engine and Non-NRU Engine shall be equipped with a catalytic converter.</p>	<p>Rule 335-3-4-.01(2)</p> <p>[MACT Avoidance] [Anti-PSD]</p>
<i>Compliance and Performance Test Methods and Procedures</i>	
<p>1. The engines shall be tested in accordance with the requirements specified in provisos 1(a) through (c) of this section once every five (5) years.</p> <p>(a) Each NRU Engine shall be tested for NO_x, CO, and VOC emissions utilizing methods and procedures laid out in provisos 2, 3, and 4 of this section of this subpart of this permit.</p> <p>(b) Each Non-NRU Engine shall be tested for formaldehyde emissions utilizing methods and procedures laid out in proviso 4(a) of this section of this subpart of this permit, or other EPA-approved test methods.</p> <p>(c) During the tests required by provisos 1(a) and 1(b) of this section of this subpart of this permit, emission factors for each pollutant tested shall be determined for each of the engines tested. [Test (Lbs/MMBTU)]</p> <p>2. NO_x testing shall follow the requirements specified in paragraph 2(a), (b), (c), (d), (e), (f), or (g) of this section.</p> <p>(a) 40 CFR 60 Appendix A, Method 7; or</p> <p>(b) 40 CFR 60 Appendix A, Method 7A; or</p> <p>(c) 40 CFR 60 Appendix A, Method 7B; or</p> <p>(d) 40 CFR 60 Appendix A, Method 7C; or</p> <p>(e) 40 CFR 60 Appendix A, Method 7D; or</p> <p>(f) 40 CFR 60 Appendix A, Method 7E; or</p>	<p>Rule 335-3-1-.05</p>

Provisos for Facility Engines

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<p>(g) Other methodology approved by the Department.</p> <p>3. CO testing shall follow the requirements specified in paragraph 3(a), (b), (c) or (d) this section.</p> <p>(a) 40 CFR 60 Appendix A, Method 10; or</p> <p>(b) 40 CFR 60 Appendix A, Method 10A; or</p> <p>(c) 40 CFR 60 Appendix A, Method 10B; or</p> <p>(d) Other methodology approved by the Department.</p> <p>4. VOC testing shall follow the requirements specified in paragraph 4(a), (b), (c), (d), (e), (f), (g) or (h) of this section.</p> <p>(a) 40 CFR 60 Appendix A, Method 18; or</p> <p>(b) 40 CFR 60 Appendix A, Method 25; or</p> <p>(c) 40 CFR 60 Appendix A, Method 25A; or</p> <p>(d) 40 CFR 60 Appendix A, Method 25B; or</p> <p>(e) 40 CFR 60 Appendix A, Method 25C; or</p> <p>(f) 40 CFR 60 Appendix A, Method 25D; or</p> <p>(g) 40 CFR 60 Appendix A, Method 25E; or</p> <p>(h) Other methodology approved by the Department.</p> <p>5. The fuel gas shall be tested for its BTU and hydrogen sulfide content in accordance to the requirements specified in proviso 5(a) through (c) of this section of this subpart.</p> <p>(a) BTU and hydrogen sulfide content testing shall occur at a frequency of no less than once every six (6) months.</p>	<p>Rule 335-3-16-.05(c)(1)(i) Rule 335-3-1-.05</p>

Provisos for Facility Engines

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<p>(b) Each sample shall be analyzed for its BTU content by utilizing the ASTM Analysis Method D1826-77 or equivalent method. [Fuel Gas BTU/Scf]</p> <p>(c) Each sample collected shall be analyzed utilizing the Tutwiler procedures found in 40 CFR §60.648 or the chromatographic analysis procedures found in ASTM E-260 or the stain tube procedures found in GPA 2377-86 or those provided by the stain tube manufacture. [Fuel Gas (H₂S ppmv)]</p> <p>(d) The frequency of analysis may be modified upon receiving Departmental approval.</p> <p>6. For the purpose of demonstrating compliance with the visible emissions standard, a daily visual inspection of each engine shall occur, except when the unit is not operating. Provided that visible emissions are observed during the visual inspection, a visible emission observation shall be conducted as specified in Appendix F of this permit.</p> <p>7. For the purpose of demonstrating compliance with the requirement to install catalytic converters on each of the engines, sufficient catalyst performance shall be demonstrated as specified in Appendix B of this permit for on each engine's catalytic converter.</p>	<p>Rule 335-3-16-.05(c)(1)(i) Rule 335-3-1-.05</p>
<p><i>Emission Monitoring</i></p> <p>1. Periodic monitoring meeting the requirements specified in Appendix A of this permit shall be utilized for each facility engine.</p> <p>2. Monitoring meeting the requirements specified in Appendix B of this permit shall be utilized for each facility engine's catalytic converter.</p> <p>(a) The monitored parameter may only be changed upon Departmental approval.</p> <p>3. Opacity monitoring as specified in Appendix F shall be utilized when visible emissions are observed from the engines.</p>	<p>Rule 335-3-16-.05(c)(1) Rule 335-3-1-.04 Rule 335-3-16-.05(c)(1)(ii)</p> <p>Rule 335-3-16-.05(c)(1) Rule 335-3-1-.04 Rule 335-3-16-.05(c)(1)(ii)</p>

Provisos for Facility Engines

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<p>4. For each NRU Engine, compliance with the requirements of 40 CFR Part 64 and <i>General Proviso 33</i> of this permit shall be demonstrated as follows:</p> <p>(a) Monitoring as specified in Appendix B of this permit shall satisfy the monitoring requirements of 40 CFR Part 64.</p> <p>(b) Provided an exceedance and/or deviation occurs, the owner or operator of the facility shall comply with the requirements specified in §64.7(d).</p> <p style="padding-left: 40px;">(1) Compliance shall be demonstrated by meeting the requirements specified in proviso §64.7(d)(2), submitting monitoring reports, and reporting deviations.</p> <p>5. A metering system shall be installed that is capable of continuously monitoring and recording the volumetric flow rate of fuel gas into each engine.</p>	<p>§64.6(b) & (c)</p> <p>§64.7(d)</p>
<p><i>Recordkeeping and Reporting Requirements</i></p>	
<p>1. For the purpose of demonstrating compliance with the emission limits for the engines as specified in the <i>emission standards</i> section of this subpart, a monthly record of the information specified in provisos 1(a) through (d) of this section of this subpart shall be maintained and made available for inspection for each engine for a period of five (5) years.</p> <p>(a) Engine emissions:</p> <p style="padding-left: 40px;">(1) Engine fuel consumption [Engine Fuel (MScf/Month)]</p> <p style="padding-left: 40px;">(2) Fuel gas heat content [Fuel Heat Content (BTU/Scf)]</p> <p style="padding-left: 40px;">(3) Fuel gas hydrogen sulfide content [Fuel H₂S (ppmv)]</p> <p style="padding-left: 40px;">(4) Engine Fuel (MMBTU/Month) =</p>	<p>Rule 335-3-16-.05(c)(2) Rule 335-3-1-.04</p>

Provisos for Facility Engines

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$$\frac{[\text{Engine Fuel (MScf/Month)}] \times [\text{Fuel Heat Content (BTU/Scf)}]}{1000}$$

(5) Engine operating hours [Hours/Month]

(6) Formaldehyde, NO_x, CO, & VOC emissions shall be determined as follows, as appropriate:

(i) Emissions [Lbs/Month] =

$$[\text{Engine Fuel (MMBTU/Month)}] \times [\text{Test (Lbs/MMBTU)}]$$

(I) [Test (Lbs/MMBTU)] shall be equal to the most recent engine test results for Formaldehyde, NO_x, CO, & VOC.

(ii) Emissions [Lbs/Hour] =

$$\frac{\text{Emissions [Lbs/Month]}}{\text{Engine operating hours [Hours/Month]}}$$

(b) Maintenance performed

(c) Record of the time, date, and results of each daily visual inspection of the engines and visible emission observations when necessary.

(d) The frequency of the calculations may be modified upon Departmental approval

(e) The latest consecutive twelve (12) month (i.e. Σ of previous eleven (11) months plus current month) records of the following shall be maintained.

(1) Pollutant emissions (Tons/12-months)

2. Periodic Monitoring Reports meeting the following requirements shall be submitted to the Department.

Rule 335-3-16-.05(c)(2)
Rule 335-3-16-.05(c)(3)(i)

Provisos for Facility Engines

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- (a) Each report shall identify each incidence of deviation from a permit term or condition including those that occur during startups, shutdowns, and malfunctions.
- (1) A deviation shall mean any instance in which emission limits, emission standards, and/or work practices were not complied with, as indicated by observations, data collection, and monitoring specified in this permit. Some examples of deviations are:
- (i) As demonstrated by the requirements specified in provisos 2 through 4 of the *emission monitoring* section of this subpart and proviso 1 of the *recordkeeping and reporting* section of this subpart, a deviation shall consist of any period when the catalyst was deemed to be defective.
- (ii) As demonstrated by the requirements specified in proviso 1 of the *emission monitoring* section of this subpart and proviso 1 of the *recordkeeping and reporting* section of this subpart, a deviation shall consist of any period during which:
- (I) The CO, NO_x, and/or VOC emissions from the NRU Engines exceeded the allowable emission limits specified in the *emission standards* section of this subpart.
- (II) The Formaldehyde emissions from the Non-NRU Engines exceeded the allowable emission limits specified in the *emission standards* section of this subpart.

Provisos for Facility Engines

Federally Enforceable Provisos

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- (2) Except as provided for in proviso 2(b) of this section, the report shall meet the requirements specified in proviso 2(a)(2)(i).
- (i) For each deviation event, the following information shall be submitted.
- (I) Emission source description
 - (II) Permit requirement
 - (III) Date
 - (IV) Starting time
 - (V) Duration
 - (VI) Actual quantity
 - (VII) Cause
 - (VIII) Action taken to return to compliance
 - (IX) Total operating hours of the affected source during the reporting period
 - (X) Total hours of deviation events during the reporting period
 - (XI) Total hours of deviation events that occurred during start ups, shut downs, and malfunctions during the reporting period
- (3) If no deviation event occurred during the reporting period, a statement that indicates there were no deviations from the permit requirements shall be included in the report.

Provisos for Facility Engines

Federally Enforceable Provisos	Regulations						
<p>(4) The report shall be submitted semi-annually on a calendar basis according to the following reporting schedule:</p> <table style="margin-left: 40px;"> <tr> <th style="text-align: left;"><u>Reporting Period</u></th><th style="text-align: left;"><u>Submittal Date</u></th></tr> <tr> <td><i>January 1st through June 30th</i></td><td><i>July 31st</i></td></tr> <tr> <td><i>July 1st through December 31st</i></td><td><i>January 31st</i></td></tr> </table> <p>(b) The report content and format in proviso 2(a)(2)(i) of this section may be modified upon receipt of Departmental approval.</p>	<u>Reporting Period</u>	<u>Submittal Date</u>	<i>January 1st through June 30th</i>	<i>July 31st</i>	<i>July 1st through December 31st</i>	<i>January 31st</i>	
<u>Reporting Period</u>	<u>Submittal Date</u>						
<i>January 1st through June 30th</i>	<i>July 31st</i>						
<i>July 1st through December 31st</i>	<i>January 31st</i>						
<p>3. Each deviation from the requirements specified in the <i>emission standards</i> section of this subpart, including those that occur during start ups, shut downs, and malfunctions, shall be reported to the Department in a manner that complies with proviso 15(b) and 21(b) of the general proviso subpart of this permit.</p>	<p>Rule 335-3-16-.05(c)(3)(ii)</p>						

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Summary Page for Emergency Generator Engine

Permitted Non- Emergency Operating Schedule: 100 Hours/yr [40 CFR 60.4242(d)]†
 †Unless otherwise approved

Permitted Emergency Operating Schedule: Unlimited [40 CFR 60.4242(d)]

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
42-224A	244 BHP, Four Stroke, Rich Burn, A, Fired Engine — Emergency Generator Engine	NO _x CO VOC	0.988 Lbs/hr 1.98 Lbs/hr 0.494 Lbs/hr	40 CFR 60 Subpart JJJJ Table 1 §60.4233(e)
		Opacity	< 20%	Rule 335-3-4-.01(1)

Provisos for Emergency Generator Engine

Federally Enforceable Provisos	Regulations
<i>Applicability</i>	
1. The emergency generator engine is subject to the applicable requirements of Rule 335-3-4-.01, “ <i>Visible Emissions</i> ” for Control of Particulate Emissions.	Rule 335-4-.01
2. The emergency generator engine is located at a facility that meets the requirements specified in Rule 335-3-16-.03; therefore, the engine is subject to the applicable requirements of Rule 335-3-16, “ <i>Major Source Operating Permits</i> ”.	Rule 335-3-16-.03
3. The emergency generator engine is subject to the applicable requirements of 40 CFR 60 Subpart A, “ <i>General Provisions</i> ”.	§60.1
4. The emergency generator engine is subject to the applicable requirements of 40 CFR 60 Subpart JJJJ, “ <i>Standards of Performance for Stationary Spark Ignition Internal Combustion Engines</i> ”.	40 CFR 60 Subpart JJJJ §60.4230(a)(4)(iv)
5. The emergency generator engine is subject to 40 CFR 63 Subpart ZZZZ, “ <i>National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines</i> ”. With regards to the requirements of this subpart:	40 CFR 63 Subpart ZZZZ
(a) This engine is a new affected source located at an area source of HAPs.	§63.6585 & §63.6590(a)(2)(iii)
(b) To demonstrate comply with the requirements of this subpart, the engine must meet the requirements of 40 CFR 60 Subpart JJJJ.	§63.6590(c)
<i>Emission Standards</i>	
1. The emergency generator engine shall adhere to the following emission limits:	Rule 335-3-16-.05(a) §60.4233(e) & 40 CFR 60 Subpart JJJJ Table 1
(a) Carbon monoxide (CO) emissions shall not exceed 1.98 Lbs/hr (4.0 g/HP-hr) or 540 ppmvd at 15% oxygen.	

Provisos for Emergency Generator Engine

Federally Enforceable Provisos	Regulations
<ul style="list-style-type: none"> (b) Nitrogen oxide (NO_x) emissions shall not exceed 0.988 Lbs/hr (2.0 g/HP-hr) or 160 ppmvd at 15% oxygen. (c) Volatile Organic Compounds (VOC) emissions shall not exceed 0.494 Lbs/hr (1.0 g/HP-hr) or 86 ppmvd at 15% oxygen. 	
2. The emergency generator engine shall meet the requirements specified in provisos 2(a) and (b) of this section of this subpart.	
<ul style="list-style-type: none"> (a) Except for one 6-minute period during any 60-minute period, the engine shall not discharge into the atmosphere particulate that results in an opacity greater than 20%, as determined by a 6-minute average. 	Rule 335-3-4-.01(1)
<ul style="list-style-type: none"> (b) At no time shall the engine discharge into the atmosphere particulate that results in an opacity greater than 40%, as determined by a 6-minute average. 	Rule 335-3-4-.01(2)
<i>Compliance and Performance Test Methods and Procedures</i>	
1. To demonstrate compliance with the emission limits specified in the <i>emissions standards</i> section, the facility shall purchase a certified engine and operate the engine in accordance with the manufacturer's emission related written instructions.	§60.4243 (a)(1) §60.4243(b)(1)
2. The generator engine shall comply with the requirements for emergency stationary internal combustion engines by meeting the following requirements:	§60.4243 (d)
<ul style="list-style-type: none"> (a) Engine may be operated for the purpose of maintenance checks and readiness testing for a period not to exceed 100 hours per year. (b) There is no time limit on the use of the engine in emergency situations. (c) Engine may operate up to 50 hours per year in non-emergency situations. 	

Provisos for Emergency Generator Engine

Federally Enforceable Provisos	Regulations
<p>(1) The 50 hours for non-emergency situations shall count towards the 100 hours allowed for maintenance checks and readiness.</p> <p>(2) The 50 hours for non-emergency situations shall not be used for peak shaving or generating income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.</p> <p>(d) Any operation of the emergency engine other than for emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year is prohibited.</p> <p>3. For the purpose of demonstrating compliance with the visible emissions standard, a daily visual inspection of the emergency generator engine shall occur. Provided that visible emissions are observed during the visual inspection, a visible emission observation shall be conducted as specified in Appendix F of this permit.</p>	
<i>Emission Monitoring</i>	
<p>1. Emission monitoring for the emergency generator shall be in the form of maintaining the records found in the <i>recordkeeping and reporting</i> section of this subpart of this permit.</p>	<p>Rule 335-3-16-.05(c)(1)(i) Rule 335-3-1-.05</p>
<i>Record Keeping and Reporting Requirements</i>	
<p>1. A monthly record of the following shall be maintained:</p> <p>(a) Engine operating hours (Hours/Month)</p> <p>(b) Engine Fuel Gas Volume (Mscf/Month)</p> <p>2. The following records shall be maintained to demonstrate compliance with 40 CFR 60 Subpart JJJJ:</p>	<p>Rule 335-3-16-.05(c)(2) Rule 335-3-1-.04</p> <p>§60.4245 (a)</p>

Provisos for Emergency Generator Engine

Federally Enforceable Provisos	Regulations
(a) All notifications submitted to comply with this subpart and all documentation supporting any notifications	§60.4245 (a)(1)
(b) Maintenance conducted on the engine	§60.4245 (a)(2)
(c) Documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048 for a certified engine	§60.4245 (a)(3)
3. Records shall be maintained and available for inspection for a period of five years.	
4. Each deviation from the requirements specified in the <i>emission standards</i> section of this subpart, including those that occur during start ups, shut downs, and malfunctions, shall be reported to the Department in a manner that complies with proviso 15(b) and 21(b) of the general proviso subpart of this permit.	Rule 335-3-16-.05(c)(3)(ii)

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Summary Page for Sulfur Recovery Unit and Thermal Oxidizer

Permitted Operating Schedule: 24 Hours/Day x 365 Days/Year = 8760 Hours/Year

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
29-203	SRU and Thermal Oxidizer (if available sulfur is ≤ 5 LTons/Day)	SO ₂	Unlimited	Rule 335-3-5-.03(3)
		H ₂ S	Burn gas w/ 0.10 grains of H ₂ S/scf	Rule 335-3-5-.03(1)
			20 ppbv of H ₂ S off site	Rule 335-3-5-.03(2)
		Opacity	< 20%	Rule 335-3-4-.01(1)

Provisos for SRU & Thermal Oxidizer

Federally Enforceable Provisos	Regulations
<i>Applicability</i>	
1. The thermal oxidizer is subject to the applicable requirements of Rule 335-3-4-.01, “ <i>Visible Emissions</i> ” for Control of Particulate Emissions.	Rule 335-4-.01
2. The Chunchula Gas Plant is subject to the applicable requirements of Rule 335-3-5-.03(1), “ <i>Petroleum Production</i> ” for Control of Sulfur Compound Emissions. The facility handles gas or refinery gas that contains more than 0.10 grains of hydrogen (H ₂ S) per standard cubic foot (Scf).	Rule 335-3-5-.03(1)
3. The thermal oxidizer is located at a facility that meets the requirements specified in Rule 335-3-16-.03; therefore, the thermal oxidizer is subject to the applicable requirements of Rule 335-3-16, “ <i>Major Source Operating Permits</i> ”.	Rule 335-3-16-.03
4. The thermal oxidizer is subject to 40 CFR Part 64, “ <i>Compliance Assurance Monitoring</i> ” and proviso 33 of the <i>General Permit Provisos</i> subpart and this subpart of this permit.	40 CFR §64
<i>Emission Standards</i>	
1. All process gas streams containing 0.10 grains of hydrogen sulfide per scf shall be burned to the extent that the ground level concentrations of hydrogen sulfide shall be less than twenty (20) parts per billion beyond plant property limits, averaged over a thirty (30) minute period.	Rule 335-3-5-.03(2)
2. Provided available sulfur is equal to or less than 5 long tons per day, there is no limit on sulfur dioxide emissions. A record of SO ₂ emissions shall be kept for reporting purposes.	Rule 335-3-16-.05(a) Rule 335-3-5-.03(3)
3. The thermal oxidizer shall meet the requirements specified in provisos 3(a) and (b) of this section of this subpart. (a) Except for one 6-minute period during any 60-minute period, the thermal oxidizer shall not discharge into the atmosphere particulate that results in an opacity greater than 20%, as determined by a 6-minute average.	Rule 335-3-4-.01(1)

Provisos for SRU & Thermal Oxidizer

Federally Enforceable Provisos	Regulations
<p>(b) At no time shall the thermal oxidizer discharge into the atmosphere particulate that results in an opacity greater than 40%, as determined by a 6-minute average.</p> <p>4. All process gas containing greater than 0.10 grains of H₂S/scf shall be burned in the thermal oxidizer or the process flare.</p> <p><i>Compliance and Performance Test Methods and Procedures</i></p> <p>1. For the purpose of demonstrating compliance with provisos 1 and 2 of the <i>emission standards</i> section of this subpart, the sour gas stream from each process stream entering the thermal oxidizer shall be tested in accordance to the requirements specified in provisos 1(a) through (e) of this section of this subpart.</p> <p>(a) The hydrogen sulfide content of each process stream shall be determined in accordance to the requirements specified in proviso 1(a)(1) and (2) of this section of this subpart.</p> <p>(1) Testing shall consist of capturing one representative sample of the stream at a frequency of no less than once each month.</p> <p>(2) The sample collected shall be analyzed utilizing the Tutwiler procedures found in §60.648 or the chromatographic analysis procedures found in ASTM E-260 or the stain tube procedures found in GPA 2377-86 or those provided by the stain tube manufacture. [Stream (H₂S Mole %)]</p> <p>(b) <i>Sour gas</i> means any gas with an H₂S content greater than that which is considered to be pipeline quality gas.</p> <p>(c) Provided multiple process streams can be sent to the thermal oxidizer and it is possible to capture a common stream whose contents would be representative of all the streams, that common stream may be used instead of the individual process streams.</p>	<p>Rule 335-3-4-.01(2)</p> <p>Rule 335-3-16-.05(c)(1)(i) Rule 335-3-1-.05</p>

Provisos for SRU & Thermal Oxidizer

Federally Enforceable Provisos	Regulations
<p>(d) Each process gas stream that has to be vented to atmosphere shall be captured and sent to the thermal oxidizer or the process flare for combustion.</p> <p>(1) Compliance shall be demonstrated by conducting a process flow design evaluation of the production facility in conjunction with a visual inspection of the facility.</p> <p>(2) Except when vessels and equipment are being de-pressured and/or emptied and the reduced pressure will not allow flow of the gas to a control device, the venting to the atmosphere of any process gas stream that is subject to this proviso for a duration in excess of 15 continuous minutes shall be deemed a exceedance of requirements specified in proviso 1 of the <i>emission standards</i> section of this subpart.</p> <p>(e) The frequency of this testing may be modified upon receipt of Department approval.</p> <p>2. For the purpose of demonstrating compliance with the visible emissions standard, a daily visual inspection of the thermal oxidizer shall occur, except when the unit is not operating. Provided that visible emissions are observed during the visual inspection, a visible emission observation shall be conducted as specified in Appendix F of this permit.</p>	
<i>Emission Monitoring</i>	
<p>1. Monitoring systems meeting the requirements specified in Appendix C of this permit shall be utilized for the thermal oxidizer.</p> <p>2. Periodic monitoring meeting the requirements specified in proviso 1 of the <i>recordkeeping and reporting requirements</i> section of this subpart shall be utilized.</p> <p>3. Opacity monitoring as specified in Appendix F shall be utilized when visible emissions are observed from the thermal oxidizer.</p>	<p>Rule 335-3-16-.05(c)(1)(i) Rule 335-3-1-.05</p> <p>Rule 335-3-16-.05(c)(1) Rule 335-3-1-.04 §64.6(b) & (c)</p>

Provisos for SRU & Thermal Oxidizer

Federally Enforceable Provisos	Regulations
<i>Record Keeping and Reporting Requirements</i>	
1. For the purpose of demonstrating compliance with the <i>emission standards</i> section of this subpart, a daily record of the information specified in provisos 1(a) through (i) of this section of this subpart shall be maintained and made available for inspection.	Rule 335-3-16-.05(c)(2) Rule 335-3-1-.04 §64.9
(a) Thermal oxidizer firebox temperature [°F]	
(b) Volume of sour gas burned in thermal oxidizer [SG Stream Volume Burned (MScf/Day)]	
(c) SG Stream H ₂ S (Lbs/Day) = [SG Stream Volume Burned (MScf/Day)] X [SG Stream (H ₂ S Mole %)] X [0.8946]	
(d) Thermal oxidizer H ₂ S (Lbs/Day) = Σ of SG Stream H ₂ S (Lbs/Day) – Σ of Sulfur Recovery in SRU (Lbs/Day)	
(e) Total Thermal Oxidizer Operating Hours [Operating Hours (Hours/Day)]	
(f) H ₂ S feed (Lbs/Hour) = $\frac{\text{Thermal oxidizer H}_2\text{S (Lbs/Day)}}{\text{Operating Hours (Hours/Day)}}$	
(g) SO ₂ emissions (Lbs/Hour) = $\frac{[\text{Thermal oxidizer H}_2\text{S (Lbs/Hour)}] \times [64 \text{ Lbs of SO}_2/\text{Lb Mole}]}{[34 \text{ Lbs H}_2\text{S/Lb Mole}]}$	
(h) Record of the time, date, and results of each daily visual inspection of the thermal oxidizer and visible emission observation when necessary.	
(i) Record of the date, starting time, and duration of each deviation or exceedance of the requirements specified in the <i>emission standards</i> section of this subpart, along with the cause and corrective action taken.	§64.9(a)(2)(i)

Provisos for SRU & Thermal Oxidizer

Federally Enforceable Provisos	Regulations
<p>2. Periodic Monitoring Reports meeting the following requirements shall be submitted to the Department.</p> <p>(a) Each report shall identify each incidence of deviation from a permit term or condition including those that occur during startups, shutdowns, and malfunctions.</p> <p>(1) A deviation shall mean any instance in which emission limits, emission standards, and/or work practices were not complied with, as indicated by observations, data collection, and monitoring specified in this permit. Some examples of deviations are:</p> <p>(i) Thermocouple or equivalent device indicates the thermal oxidizer firebox temperature dropped below 900 °F when a process gas stream could have been sent to it.</p> <p>(ii) The duration of venting to the atmosphere of a process gas stream lasted more than 15 minutes.</p> <p>(iii) The feed rate of hydrogen sulfide to the thermal oxidizer exceeded 500 lb/hr.</p> <p>(iv) The air quality modeling study indicated offsite hydrogen sulfide concentrations averaged over a 30 minute period exceeded 20 ppmv.</p> <p>(v) The opacity exceeded 20% for more than one 6-minute averaging period during any consecutive 60-minute period.</p> <p>(vi) The opacity exceeded 40% during any 6-minute averaging period.</p> <p>(vii) There was a failure to maintain the accumulated minutes in which visible emissions were observed at a value less than 12 minutes when using Method 22.</p>	<p>Rule 335-3-16-.05(c)(2) Rule 335-3-16-.05(c)(3)(i)</p>

Provisos for SRU & Thermal Oxidizer

Federally Enforceable Provisos	Regulations
<ul style="list-style-type: none"> (viii) Immediate corrective measures were not undertaken when visible emissions were observed. (ix) The requirements specified in the <i>compliance and performance test methods and procedures</i> section of this subpart were not complied with. (x) The requirements specified in the <i>emission monitoring</i> section of this subpart were not complied with. (xi) The requirements specified in the <i>recordkeeping and reporting requirements</i> section of this subpart were not complied with. 	
<p>(2) Except as provided for in proviso 2(b) of this section, the report shall meet the requirements specified in proviso 2(a)(2)(i).</p> <ul style="list-style-type: none"> (i) For each deviation event, the following information shall be submitted. <ul style="list-style-type: none"> (I) Emission source description (II) Permit requirement (III) Date (IV) Starting time (V) Duration (VI) Actual quantity (VII) Cause (VIII) Action taken to return to compliance 	

Provisos for SRU & Thermal Oxidizer

Federally Enforceable Provisos	Regulations						
<p>(IX) Total operating hours of the affected source during the reporting period</p> <p>(X) Total hours of deviation events during the reporting period</p> <p>(XI) Total hours of deviation events that occurred during start ups, shut downs, and malfunctions during the reporting period</p> <p>(3) If no deviation event occurred during the reporting period, a statement that indicates there were no deviations from the permit requirements shall be included in the report.</p> <p>(4) The report shall be submitted semi-annually on a calendar basis according to the following reporting schedule:</p> <table style="margin-left: 40px;"> <tr> <th style="text-align: left;"><u>Reporting Period</u></th><th style="text-align: left;"><u>Submittal Date</u></th></tr> <tr> <td><i>January 1st through June 30th</i></td><td><i>July 31st</i></td></tr> <tr> <td><i>July 1st through December 31st</i></td><td><i>January 31st</i></td></tr> </table> <p>(b) The report content and format in proviso 2(a)(2)(i) of this section may be modified upon receipt of Departmental approval.</p>	<u>Reporting Period</u>	<u>Submittal Date</u>	<i>January 1st through June 30th</i>	<i>July 31st</i>	<i>July 1st through December 31st</i>	<i>January 31st</i>	
<u>Reporting Period</u>	<u>Submittal Date</u>						
<i>January 1st through June 30th</i>	<i>July 31st</i>						
<i>July 1st through December 31st</i>	<i>January 31st</i>						
<p>3. Each deviation from the requirements specified in the <i>emission standards</i> section of this subpart, including those that occur during start ups, shut downs, and malfunctions, shall be reported to the Department in a manner that complies with proviso 15(b) and 21(b) of the <i>General Provisos</i> subpart of this permit.</p>	<p>Rule 335-3-16-.05(c)(3)(ii)</p>						

Summary Page for Facility Process Flare

Permitted Operating Schedule: **24** Hours/Day x **365** Days/Year = **8760** Hours/Year

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
Flare No. 1	Facility Process Flare (if available sulfur is < = 5 LTons/Day)	SO ₂	Unlimited	Rule 335-3-5-.03(3)
		H ₂ S	Burn gas w/ 0.10 grains of H ₂ S/scf	Rule 335-3-5-.03(1)
			20 ppbv of H ₂ S off site	Rule 335-3-5-.03(2)
		Opacity	No Visible Emissions	40 CFR 60.18 Subpart KKK & 40 CFR 63.11 Subpart HH

Provisos for Facility Process Flare

Federally Enforceable Provisos	Regulations
<i>Applicability</i>	
1. The Chunchula Gas Plant is subject to the applicable requirements of Rule 335-3-5-.03(1), " <i>Petroleum Production</i> " for Control of Sulfur Compound Emissions. The facility handles gas or refinery gas that contains more than 0.10 grains of hydrogen (H ₂ S) per standard cubic foot (Scf).	Rule 335-3-5-.03(1)
2. The process flare is located at a facility that meets the requirements specified in Rule 335-3-16-.03; therefore, the process flare is subject to the applicable requirements of Rule 335-3-16, " <i>Major Source Operating Permits</i> ".	Rule 335-3-16-.03
3. The process flare is used to comply with 40 CFR 60 Subpart KKK and 40 CFR 63 Subpart HH in that it is used to combust captured emissions from sources subject to these regulations.	§60.18(a) §60.633(f) §63.11(b) §63.771(d)(1)(iii)
4. The process flare is subject to 40 CFR Part 64, " <i>Compliance Assurance Monitoring</i> " and proviso 33 of the <i>General Permit Provisos</i> subpart and this subpart of this permit.	40 CFR §64
<i>Emission Standards</i>	
1. All process gas streams containing 0.10 grains of hydrogen sulfide per scf shall be burned to the extent that the ground level concentrations of hydrogen sulfide shall be less than twenty (20) parts per billion beyond plant property limits, averaged over a thirty (30) minute period.	Rule 335-3-5-.03(2)
2. Provided available sulfur is less than or equal to 5 long tons per day, there is no limit on sulfur dioxide emissions. A record of SO ₂ emissions shall be kept for reporting purposes.	Rule 335-3-16-.05(a) Rule 335-3-5-.03(3) Rule 335-3-14-.04
3. All process gas containing greater than 0.10 grains of H ₂ S/scf shall be burned in the thermal oxidizer or the process flare.	
4. To demonstrate compliance with 40 CFR 60 Subpart KKK and 40 CFR 63 Subpart HH the process flare shall meet the following requirements:	§60.18 §63.11
(a) Be designed for and operated with no visible emissions, except for a 5-minute period during any consecutive 2-hour period	§60.18 (c)(1) §63.11(b)(4)

Provisos for Facility Process Flare

Federally Enforceable Provisos	Regulations
<p>(b) Operate at all times when emissions may be vented to it</p> <p>(c) Operate with a flame present at all times</p> <p>(d) Be steam-assisted, air-assisted, or non-assisted</p> <p>(e) Adhere to the following:</p> <p style="padding-left: 40px;">(1) Heat content specifications found in §60.18 (c)(3)(ii) and §63.11(b)(6)(ii)</p> <p style="text-align: center;">AND</p> <p style="padding-left: 40px;">(2) Maximum tip velocity specifications in §63.11(b)(7) or (b)(8) and §60.18 (c)(4)</p> <p style="text-align: center;">OR</p> <p style="padding-left: 40px;">(3) The requirements of §63.11(b)(6)(i) and §60.18 (c)(3)(i)</p>	<p>§60.18(e) §63.11(b)(3))</p> <p>§60.18 (c)(2) §63.11(b)(5))</p> <p>§60.18 (c)(6) §63.11(b)(2))</p> <p>§63.11(b)(6) §60.18 (c)(3))</p>
<p><i>Compliance and Performance Test Methods and Procedures</i></p> <p>1. For the purpose of demonstrating compliance with provisos 1 and 2 of the <i>emission standards</i> section of this subpart, each process stream that can be sent to the flare shall be tested in accordance to the requirements specified in proviso 1(a) and (b) of this section of this subpart.</p> <p style="padding-left: 40px;">(a) The hydrogen sulfide content of each process stream shall be determined in accordance to the requirements specified in proviso 1(a)(1) and (2) of this section of this subpart.</p> <p style="padding-left: 80px;">(1) Testing shall consist of capturing one representative sample of the stream at a frequency of no less than once each month.</p>	

Provisos for Facility Process Flare

Federally Enforceable Provisos	Regulations
<p>(2) The sample collected shall be analyzed utilizing the Tutwiler procedures found in §60.648 or the chromatographic analysis procedures found in ASTM E-260 or the stain tube procedures found in GPA 2377-86 or those provided by the stain tube manufacture.</p> <p style="text-align: right;">[Stream (H₂S Mole %)]</p> <p>(b) The volatile organic compound weight percent, BTU content, and molecular weight of each process stream shall be determined in accordance to the requirements specified in proviso 1(b)(1) and (2) of this section of this subpart.</p> <p>(1) A representative sample of the stream shall be captured and analyzed at a frequency of no less than once each twelve (12) months.</p> <p>(2) The sample collected shall be analyzed utilizing ASTM Analysis Method D1826-77, chromatographic analysis procedures found in 40 CFR Part 60 Appendix A, Method 18 or equivalent methods and procedures.</p> <p style="text-align: right;">[Stream (Mole Wt)] [Stream (VOC Wt %)] [Stream (BTU/Scf)]</p> <p>(c) Provided multiple process streams can be sent to the flare and it is possible to capture a common stream whose contents would be representative of all the streams, that common stream may be used instead of the individual process streams.</p> <p>(d) Each process gas stream that has to be vented to atmosphere shall be captured and sent to the thermal oxidizer or the process flare for combustion.</p> <p>(1) Compliance shall be demonstrated by conducting a process flow design evaluation of the production facility in conjunction with a visual inspection of the facility.</p>	

Provisos for Facility Process Flare

Federally Enforceable Provisos	Regulations
<p>(2) Except when vessels and equipment are being de-pressured and/or emptied and the reduced pressure will not allow flow of the gas to a control device, the venting to the atmosphere of any process gas stream that is subject to this proviso for a duration in excess of 15 continuous minutes shall be deemed a exceedance of requirements specified in proviso 1 of the <i>emission standards</i> section of this subpart.</p> <p>(e) The frequency of this testing may be modified upon receipt of Department approval.</p> <p>2. For the purpose of demonstrating compliance with the visible emission standards, a daily visible emission observation shall be conducted on the process flare as specified in Appendix E of this permit, except when the unit is not operating.</p> <p>3. For the purpose of demonstrating compliance with CAM regulations, the facility shall demonstrate the presence of a flame or spark at the flare tip at all times a process gas stream may be sent to the process flare by conducting monitoring as specified in Appendix D of this permit.</p>	<p>§60.18 (c)(1) §63.11(b)(4)</p> <p>40 CFR §64</p>
<i>Emission Monitoring</i>	
<p>1. Monitoring meeting the requirements specified in the Appendix D of this permit shall be utilized for the process flare.</p> <p>2. Opacity monitoring shall be conducted daily on the process flare utilizing the methods and procedures specified in Appendix E.</p>	<p>Rule 335-3-16-.05(c)(1) Rule 335-3-1-.04 Rule 335-3-16-.05(c)(1)(ii) §64.6(b) & (c)</p> <p>§60.18(f)</p>
<i>Record Keeping and Reporting Requirements</i>	
<p>1. For the purpose of indicating compliance with the <i>emission standards</i> section of this subpart, a monthly record of the information specified in provisos 1(a) through (j) of this section of this subpart shall be maintained and made available for inspection.</p> <p>(a) Volume of gas burned in flare = [Stream Volume Burned (MScf/Month)]</p>	<p>Rule 335-3-16-.05(c)(2) Rule 335-3-1-.04 §64.9</p>

Provisos for Facility Process Flare

Federally Enforceable Provisos	Regulations
<p>(b) Stream (MMBTU/Month) =</p> $\left[\frac{\text{Stream Volume Burned (MScf/Month)}}{\text{Stream (BTU/SCF)}} \right] \times \left[\frac{1000 \text{ Scf}}{1 \text{ MScf}} \right] \times \left[\frac{1 \text{ MMBTU}}{1000000 \text{ BTU}} \right]$ <p>(c) Stream H₂S (Lbs/Month) =</p> $\left[\frac{\text{Stream Volume Burned (MScf/Day)}}{1 \text{ Mole}/380 \text{ SCF}} \right] \times \left[\frac{1000 \text{ Scf}}{\text{MScf}} \right] \times \left[\frac{\text{Stream (H}_2\text{S Mole \%)}}{100} \right] \times \left[\frac{34 \text{ Lbs. H}_2\text{S}}{\text{Mole H}_2\text{S}} \right]$ <p>(d) Flare H₂S Feed Rate (Lbs/Month) =</p> $\Sigma \text{ of Stream H}_2\text{S (Lbs/Month)}$ <p>(e) Flare Operating Hours =</p> $\text{Operating Hours (Hours/Month)}$ <p>(f) H₂S feed (Lbs/Hour) =</p> $\frac{\text{Flare H}_2\text{S Feed Rate (Lbs/Month)}}{\text{Operating Hours (Hours/Month)}}$ <p>(g) Flare SO₂ (Lbs/Month) =</p> $\left[\frac{\text{Flare H}_2\text{S Feed Rate (Lbs/Month)}}{34 \text{ Lbs H}_2\text{S/Lb Mole}} \right] \times \left[\frac{64 \text{ Lbs of SO}_2}{\text{Lb Mole}} \right] \times 0.98$ <p>(h) Flare (MMBTU/Month) =</p> $\Sigma \text{ of Stream (MMBTU/Month)}$ <p>(i) Record of the time, date, and results of each daily visible emission observation</p> <p>(j) The date, starting time, and duration of each deviation or exceedance of the requirements specified in the <i>emission standards</i> section of this subpart along with the cause and corrective actions taken</p> <p>2. Periodic Monitoring Reports meeting the follow requirements shall be submitted to the Department.</p> <p>(a) Each report shall identify each incidence of a deviation from a permit term or condition including those that occur during startups, shutdowns, and malfunctions.</p>	<p>Rule 335-3-16-.05(c)(2) Rule 335-3-16-.05(c)(3)(i)</p>

Provisos for Facility Process Flare

Federally Enforceable Provisos	Regulations
<p>(1) A deviation shall mean any instance in which emission limits, emission standards, and/or work practices were not complied with, as indicated by observations, data collection, and monitoring specified in this permit. Some examples of deviations are:</p> <ul style="list-style-type: none"> (i) A visual inspection of the flare indicated there was no flame present at the flare tip when a process gas stream could have been sent to it. (ii) The duration of the venting to the atmosphere of a process gas stream lasted more than 15 minutes. (iii) The air quality modeling study indicated offsite hydrogen sulfide concentrations average over a 30 minute period exceeded 20 ppbv. (iv) Visible emissions were observed from the flare for more than 5 minutes during a consecutive 2-hour period. (v) There was a failure to maintain the accumulated minutes in which visible emissions were observed at a value less than 12 minutes when using Method 22. (vi) Immediate corrective measures were not undertaken when visible emissions were observed. (vii) The requirements specified the <i>compliance and performance test methods and procedures</i> section of this subpart were not complied with. (viii) The requirements specified in the <i>emission monitoring</i> section of this subpart were not complied with. 	

Provisos for Facility Process Flare

Federally Enforceable Provisos	Regulations
<p>(ix) The requirements specified in the <i>recordkeeping and reporting requirements</i> section of this subpart were not complied with.</p> <p>(2) Except as provided for in proviso 2(b) of this section, the report shall meet the requirements specified in proviso 2(a)(2)(i).</p> <p>(i) For each deviation event, the following information shall be submitted.</p> <p>(I) Emission source description</p> <p>(II) Permit requirement</p> <p>(III) Date</p> <p>(IV) Starting time</p> <p>(V) Duration</p> <p>(VI) Actual quantity</p> <p>(VII) Cause</p> <p>(VIII) Action taken to return to compliance</p> <p>(IX) Total operating hours of the affected source during the reporting period</p> <p>(X) Total hours of deviation events during the reporting period</p> <p>(XI) Total hours of deviation events that occurred during start ups, shut downs, and malfunctions during the reporting period</p> <p>(3) If no deviation event occurred during the reporting period, a statement that indicates there were no deviations from the permit requirements shall be included in the report.</p>	

Provisos for Facility Process Flare

Federally Enforceable Provisos	Regulations						
<p>(4) The report shall be submitted semi-annually on a calendar basis according to the following reporting schedule:</p> <table> <tr> <td><u>Reporting Period</u></td><td><u>Submittal Date</u></td></tr> <tr> <td><i>January 1st through June 30th</i></td><td><i>July 31st</i></td></tr> <tr> <td><i>July 1st through December 31st</i></td><td><i>January 31st</i></td></tr> </table> <p>(b) The report content and format in proviso 2(a)(2)(i) of this section may be modified upon receipt of Departmental approval.</p> <p>3. Each deviation from the requirements specified in the <i>emission standards</i> section of this subpart, including those that occur during start ups, shut downs, and malfunctions, shall be reported to the Department in a manner that complies with proviso 15(b) and 21(b) of the general proviso subpart of this permit.</p>	<u>Reporting Period</u>	<u>Submittal Date</u>	<i>January 1st through June 30th</i>	<i>July 31st</i>	<i>July 1st through December 31st</i>	<i>January 31st</i>	<p>Rule 335-3-16-.05(c)(3)(ii)</p>
<u>Reporting Period</u>	<u>Submittal Date</u>						
<i>January 1st through June 30th</i>	<i>July 31st</i>						
<i>July 1st through December 31st</i>	<i>January 31st</i>						

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Summary Page for VOC Emissions from Storage Vessels

Permitted Operating Schedule: 24 Hours/Day x 365 Days/Year = 8,760 Hours/Year

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
33-701A	630,000 Gallon Condensate Storage Tank	VOC		40 CFR 60 Subpart K _a
33-701B	630,000 Gallon Condensate Storage Tank	VOC		40 CFR 60 Subpart K _a

Provisos for VOC Emissions from Storage Vessels

Federally Enforceable Provisos	Regulations
<p><i>Applicability</i></p> <p>1. Each storage vessel with a storage capacity greater than 40,000 gallons that is used to store petroleum liquids for which construction, reconstruction, or modification commenced after May 18, 1978 and prior to July 23, 1984 is an affected facility under 40 CFR 60 Subpart K_a, “<i>Standards of Performance for Storage Vessels for Petroleum Liquids</i>”. The two 630,000 gallon condensate storage tanks would be subject to this regulation.</p>	<p>§60.110a(a)</p>
<p><i>Emissions Standards</i></p> <p>1. Each storage vessel which contains a petroleum liquid which, as stored, has a true vapor pressure equal to or greater than 1.5 psia, but not greater than 11.1 psia shall be equipped with one of the following:</p> <p>(a) An external floating roof consisting of a pontoon-type or double-deck-type cover that rests on the surface of the liquid contents and is equipped with a closure device between the tank wall and the roof edge.</p> <p>(b) A fixed roof with an internal floating type cover equipped with a continuous closure device between the tank wall and the cover edge.</p> <p>(c) A vapor recovery system which collects all VOC vapors and gases discharged from the storage vessel and a vapor return or disposal system which is designed to process such VOC vapors and gases so as to reduce their emissions to the atmosphere by at least 95% by weight.</p> <p>(d) A system equivalent to those above as provided in §60.114a for alternative means of emission limitations.</p>	<p>§60.112a(a)</p> <p>§60.112a(a)(1)</p> <p>§60.112a(a)(2)</p> <p>§60.112a(a)(3)</p> <p>§60.112a(a)(4)</p>

Provisos for VOC Emissions from Storage Vessels

Federally Enforceable Provisos	Regulations
2. Each storage vessel which contains a petroleum liquid which, as stored, has a true vapor pressure greater than 11.1 psia shall be equipped with a vapor recovery system which collects all VOC vapors and gases discharged from the storage vessel and a vapor return or disposal system which is designed to process such VOC vapors and gases so as to reduce their emissions to the atmosphere by at least 95% by weight.	§60.112a(b)
3. Owners or operators may choose an alternative means of compliance with this subpart by complying with 40 CFR Part 65, Subpart C to satisfy the requirements of 60.112a through 60.114a for storage vessels subject to this subpart that store petroleum liquids that, as stored, have a maximum true vapor pressure equal to or greater than 1.5 psia.	§60.110a(c)(1)
(a) If 40 CFR Part 65, Subpart C is complied with, §60.1, §60.2, §60.5, §60.6, §60.7(a)(1) and (4), §60.14, §60.15, and §60.16 of 40 CFR 60 Subpart A, “ <i>General Provisions</i> ” shall also be complied with for storage vessels.	§60.110a(c)(2)
<i>Compliance and Performance Test Methods and Procedures</i>	
1. Except as provided in §60.8(b), compliance with the emission standards shall be determined as follows or in accordance with an equivalent procedure as provided in §60.114a:	§60.113a(a) §60.8(b)
(a) Meet the testing and procedures requirements of §60.113a(a)(1) for storage vessels with an external floating roof.	§60.113a(a)(1)
(b) Meet the testing and procedures requirements of §60.113a(a)(2) for storage vessels with a vapor recovery and return or disposal system.	§60.113a(a)(2)
<i>Emission Monitoring</i>	
1. Emission monitoring shall be met by maintaining the records as required in the <i>recordkeeping and reporting</i> section of this subpart of this permit.	

Provisos for VOC Emissions from Storage Vessels

Federally Enforceable Provisos	Regulations
<i>Recordkeeping and Reporting Requirements</i>	
1. The following records shall be maintained and available for inspection to demonstrate compliance with this subpart: <ul style="list-style-type: none">(a) Petroleum liquid stored(b) Period of storage(c) Maximum true vapor pressure of liquid during the respective storage period	§60.115a

Summary Page for Facility-Wide HAP Emissions from Oil and Natural Gas Production Facilities

Permitted Operating Schedule: **24 Hours/Day x 365 Days/Year = 8760 Hours/Year**

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
All affected sources located at oil and natural gas production facilities		HAPs	LDAR work practices	40 CFR §63 Subpart HH (Oil and Gas MACT)

Affected sources within process unit:

- Compressors in VHAP service located at a natural gas processing plant
- Group of all ancillary equipment located at a natural gas processing plant:
 - Each valve
 - Each pump
 - Each pressure relief device
 - Each sampling connection system
 - Each open-ended valve or line
 - Each flange or other connector
- Each glycol dehydration unit
- Each storage vessels with the potential for flash emissions

Process units :

Inlet gathering & separation unit
 Condensate stabilization unit
 Gas sweetening unit
 Ethylene Glycol dehydration unit vents
 Tri-Ethylene Glycol dehydration unit vents
 Produced & process water system
 Closed vent system with flare
 33-701A 630,000 gallon condensate storage tank
 33-701B 630,000 gallon condensate storage tank

Facility-Wide HAP Emissions from Oil and Natural Gas Production Facilities

Federally Enforceable Provisos	Regulations
<i>Applicability</i>	Rule 335-3-11-.06(33)
<p>1. The Chunchula Gas Plant is subject to the applicable requirements of 40 CFR 63 Subpart HH, “<i>National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities</i>”, except as specified in §63.760(e). Affected sources for major sources of hazardous air pollutants (HAPs) under this subpart are as follows:</p> <p>(a) Each glycol dehydration unit, provided the actual annual average natural gas flowrate is greater than or equal to 85 thousand standard cubic meter per day and the actual average benzene glycol dehydration unit process vent emissions are greater than or equal to 0.90 megagrams per year that must be controlled for HAP emissions.</p> <p>(b) Each storage vessel with the potential for flash emissions, provided the storage vessels are not meeting the requirements specified in 40 CFR 60 Subpart K_b, 40 CFR 63 Subpart G, or 40 CFR 63 Subpart G.</p> <p>(c) Group of all ancillary equipment, except compressors intended to operate in volatile hazardous air pollutant (VHAP) service, located at a natural gas processing plant, provided the criteria specified in §63.769(a) are met and the ancillary equipment is not meeting the requirements specified in 40 CFR 60 Subpart KKK or 40 CFR 63 Subpart H.</p> <p>(d) Each compressor intended to operate in volatile hazardous air pollutant service located at a natural gas processing plant provided the criteria specified in §63.769(a) are meet and the compressor is not meeting the requirements specified in 40 CFR 60 Subpart KKK or 40 CFR 63 Subpart H.</p>	<p>§63.760(a)(1). (a)(2), & (a)(3) §63.760(b)(1) §63.760(e)</p> <p>§63.760(b)(1)(i) §63.765(a)</p> <p>§63.760(b)(1)(ii) §63.766(d)</p> <p>§63.760(b)(1)(iii) §63.769(a) & (b)</p> <p>§63.760(b)(1)(iv) §63.769(a) & (b)</p>
<i>Emissions Standards</i>	Rule 335-3-11-.06(33)
<p>1. Each glycol dehydration unit process vent shall comply with the requirements specified in §63.765(b)(1) and §63.765(b)(2) or §63.765(c), except as specified in §63.764 (e)(1).</p>	<p>§63.760(f)(1) §63.764 (c)(1) §63.764 (e)(1) §63.765(b) & (c)</p>

Facility-Wide HAP Emissions from Oil and Natural Gas Production Facilities

Federally Enforceable Provisos	Regulations
2. Each storage vessels with the potential for flash emissions shall comply with the requirements specified in either §63.766(b)(1) or §63.766(b)(2).	§63.760(f)((1) §63.764 (c)(2) §63.766(b)(1) & (b)(2)
3. The group of ancillary equipment and each compressor intended to operate in VHAP service located at the Chunchula Gas Plant shall demonstrate compliance with 40 CFR 63 Subpart HH by meeting the requirements of 40 CFR 60 Subpart KKK.	§63.760(f)((1) §63.769(b)
4. Control equipment must meet the requirements specified in §63.771(a). Control equipment used to comply with the requirements of this subpart are as follows:	§63.760(f)((1) §63.771(a)
(a) Each cover installed and operated to control air emissions shall comply with the requirements specified in §63.771(b).	§63.771(b)
(b) Each closed-vent system installed and operated to control air emissions shall comply with the requirements specified in §63.771(c).	§63.771(c)
(c) Each control device installed and operated to control air emissions shall comply with the requirements specified in §63.771(d).	§63.771(d)
(d) Provided the owner or operator chooses to comply with the requirements specified in §63.765(c)(2), the requirements specified in §63.771(e) shall be met.	§63.765(c)(2) §63.771(e)
<i>Compliance and Performance Test Methods and Procedures</i>	Rule 335-3-11-.06(33) §63.6
1. To demonstrate compliance with the <i>emission standards</i> section of this subpart, the test methods and procedures specified in provision 1(a) through (f) of this section of this subpart shall be met.	
(a) Compliance with the control equipment requirements shall be met by reviewing records and reports, reviewing performance test results, and by conducting inspections.	§63.771 (a) §63.774 §63.775

Facility-Wide HAP Emissions from Oil and Natural Gas Production Facilities

Federally Enforceable Provisos	Regulations
(b) To demonstrate exemption from the control requirements for the glycol dehydration process vent specified in §63.764 (c)(1)(i), the facility must determine the glycol dehydration unit flowrate or benzene emissions using the methods and procedures specified in §63.772(b).	§63.764 (c)(1)(i) §63.764 (e)(1) §63.772(b)
(c) Compliance with the test requirements for the group of ancillary equipment and compressors shall be demonstrated by meeting the requirements for these units as specified in 40 CFR 60 Subpart KKK.	§63.769(b)
(d) To demonstrate compliance with the control requirements for affected sources using closed vent systems to control air emissions, a test for no detectable emissions shall be conducted in accordance with the methods and procedures specified in §63.772(c).	§63.772(c)
(e) A control device performance test or a design analysis shall be conducted to demonstrate that a control device achieves the performance requirements of §63.771(d)(1) or (e)(3)(ii).	§63.771(d)(1) §63.771(e)(3)(ii) §63.772(e) §63.772(e)(3) §63.772(e)(4) §63.772(e)(5)
(1) Alternative procedures as specified in §63.772(e)(5) may be used for performance testing of a condenser used to control emissions from a glycol dehydration unit process vent.	§63.772(e) §63.772(e)(5)
(f) To demonstrate compliance with the control device performance requirements for enclosed combustion devices and process modifications used to achieve 95.0% HAP emission reduction, the requirements as specified in §63.772(f)(1) through (f)(3) shall be met.	§63.771(d)(1)(i) §63.771(e)(3) §63.772(f)
(1) Alternative procedures as specified in §63.772(g) may be elected if a condenser is installed as a control device to demonstrate compliance with the control requirements for a vapor recovery device or if process modifications alone are used to achieve 95.0% HAP emission reduction.	§63.771(d)(1)(ii) §63.771(e)(3) §63.772(f) §63.772(g)

Facility-Wide HAP Emissions from Oil and Natural Gas Production Facilities

Federally Enforceable Provisos	Regulations
<p>(2) Compliance may be alternated between meeting the requirements of §63.772 (f) and §63.772 (g).</p> <p>(i) At least one year of operating in compliance with the selected approach must be met before alternating.</p> <p>(ii) Notification of the change in the compliance method shall be reported in the next Periodic Report, as required in §63.775 (e) following the change.</p>	<p>§63.772(f) §63.772(g) §63.775 (e)</p>
<i>Emission Monitoring</i>	Rule 335-3-11-.06(33)
<p>1. To demonstrate compliance with the requirements specified in the <i>emission standards</i> section of this subpart, the monitoring specified in provision 1(a) through (d) of this section shall be met.</p> <p>(a) Each glycol dehydration unit process vent and each storage vessel subject to 40 CFR 63 Subpart HH shall comply with the inspection and monitoring requirements specified in §63.773.</p> <p>(b) The group of ancillary equipment and compressors subject to this subpart shall demonstrate compliance with the monitoring requirements as specified in 40 CFR 60 Subpart KKK.</p> <p>(c) For each closed-vent system or cover used to comply with the inspection and monitoring section of 40 CFR 63 Subpart HH, the requirements specified in §63.773(c) shall be complied with.</p> <p>(d) For each control device used to comply with the inspection and monitoring section of 40 CFR 63 Subpart HH, the requirements specified in §63.773(d) shall be complied with.</p>	<p>§63.773</p> <p>§63.773 §63.764(c)(1)(ii) §63.764(c)(2)(ii)</p> <p>§63.769(b)</p> <p>§63.773(c)</p> <p>§63.773(d)</p>

Facility-Wide HAP Emissions from Oil and Natural Gas Production Facilities

Federally Enforceable Provisos	Regulations
<i>Recordkeeping and Reporting Requirements</i>	Rule 335-3-11-.06(33)
1. The following recordkeeping requirements shall be met:	§63.774
(a) The notification and recordkeeping provisions specified in §63.9 and §63.10 of 40 CFR 63, Subpart A and Table 2 of 40 CFR 63, Subpart HH	§63.774(a) §63.9 §63.10
(b) The requirements specified in §63.774(b) for recordkeeping	§63.774(b)
2. The following reporting requirements shall be met:	§63.775
(a) The reporting provisions specified in §63.10 of 40 CFR 63, Subpart A and Table 2 of 40 CFR 63 Subpart HH	§63.775(a)
(b) The requirements specified in §63.775(b) for reporting at a major source of HAP emissions	§63.775(b)
(c) The requirement to submit a Notification of Compliance Report as specified in §63.775(d)	
3. A Periodic Monitoring Report meeting the follow requirements shall be prepared and submitted to the Department.	§63.775(e)
(a) The report shall include the information specified in the provisos 3(a)(1) through (12).	§63.775(e)(2)(i) through (x)
(1) Information required under §63.10(e)(3)	
(2) Description of all excess emissions that have occurred during the six month reporting period	
(3) For each inspection conducted in accordance with §63.773(c) during which a leak or defect is detected, the records specified in §63.774(b)(7) must be included in the next Periodic Report	
(4) If subject to the provisions specified in §63.769, the owner or operator shall comply with the reporting requirements specified in 40 CFR 61.247, except that Periodic Reports shall be submitted semi-annually	

Facility-Wide HAP Emissions from Oil and Natural Gas Production Facilities

Federally Enforceable Provisos	Regulations						
<p>(5) Records required under §63.774(b)(4)(iii) of all periods when the vent stream is diverted from the control device through a bypass line shall be included for each closed-vent system with a bypass line subject to §63.771(c)(3)(i)(A)</p> <p>(6) Records required under §63.774(b)(4)(iv) of all periods in which the seal mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked shall be included for each closed-vent system with a bypass line subject to §63.771(c)(3)(i)(B)</p> <p>(7) Records required under §63.774(c)(3) shall be included if §63.765(b)(1)(ii) is complied with</p> <p>(8) The following information shall be stated in the Periodic Report, when applicable:</p> <p style="padding-left: 40px;">(i) No excursions (excess emission)</p> <p style="padding-left: 40px;">(ii) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.</p> <p>(9) Any change in compliance methods as specified in §63.772(f)</p> <p>(10) Records required under §63.774(b)(11), shall be included if §63.765(c)(2) is complied with</p> <p>(11) Records specified in §63.774(e)(3) for flares</p> <p>(12) The report shall be submitted semi-annually on a calendar basis according to the following reporting schedule:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><u>Reporting Period</u></td><td style="text-align: center;"><u>Submittal Date</u></td></tr> <tr> <td style="text-align: center;"><i>January 1st through June 30th</i></td><td style="text-align: center;"><i>July 31st</i></td></tr> <tr> <td style="text-align: center;"><i>July 1st through December 31st</i></td><td style="text-align: center;"><i>January 31st</i></td></tr> </table>	<u>Reporting Period</u>	<u>Submittal Date</u>	<i>January 1st through June 30th</i>	<i>July 31st</i>	<i>July 1st through December 31st</i>	<i>January 31st</i>	<p>§63.775(e)(1)</p>
<u>Reporting Period</u>	<u>Submittal Date</u>						
<i>January 1st through June 30th</i>	<i>July 31st</i>						
<i>July 1st through December 31st</i>	<i>January 31st</i>						

Facility-Wide HAP Emissions from Oil and Natural Gas Production Facilities

Federally Enforceable Provisos	Regulations
4. Files of all information (including all reports and notifications) required by this subpart shall be maintained and retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report or period.	§63.774(b)(1)

Summary Page for Facility Wide VOC Equipment Leaks from Onshore Natural Gas Processing Plants

Permitted Operating Schedule: **24 Hours/Day x 365 Days/Year = 8760 Hours/Year**

Emission limitations:

Emission Point #	Description	Pollutant	Emission Limit	Regulation
	Affected sources under this subpart	Fugitive VOC	LDAR work practices	40 CFR §60 Subpart KKK
	Ancillary equipment and compressors in VHAP service located at a natural gas processing plant	Fugitive HAPs	LDAR work practices	40 CFR §63 Subpart HH

Affected sources within process unit:

- Compressors, except reciprocating compressors, in VOC service or wet gas service located at an onshore natural gas processing plant
- Group of all equipment within a process unit located at a natural gas processing plant that is in VOC or wet gas service:
 - Each valve
 - Each pump
 - Each pressure relief device
 - Each sampling connection system
 - Each open-ended valve or line
 - Each flange or other connector
- Each glycol dehydration unit
- Each sweetening unit
- Liquefied natural gas unit

Process units :

Inlet gathering & separation unit
 Condensate stabilization unit
 Gas sweetening unit
 Ethylene Glycol dehydration unit vents
 Tri-Ethylene Glycol dehydration unit vents
 Produced & process water system
 Closed vent system with flare

Provisos for VOC Equipment Leaks from Onshore Natural Gas Processing Plants

Federally Enforceable Provisos	Regulations
<i>Applicability</i>	Rule 335-3-10-.02(63)
<p>1. Except as specified in 40 CFR §60.630(d), affected facilities at onshore natural gas processing plants that commences construction, reconstruction, or modification after January 20, 1984 are subject to the requirements found in 40 CFR 60, Subpart KKK “<i>Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants</i>”. Affected facilities under this subpart are as follows:</p> <p>(a) Each compressor in VOC service or in wet gas service, except reciprocating compressors in wet gas service</p> <p>(b) The group of all equipment within a process unit in VOC service or in wet gas service as specified in proviso 1(b)(1) through (5).</p> <p>(1) Each pump</p> <p>(2) Each pressure relief device</p> <p>(3) Each open-ended valve or line</p> <p>(4) Each valve</p> <p>(5) Each flange or other connector</p> <p>(c) A compressor station, dehydration unit, sweetening unit, underground storage tanks, field gas gathering system, or liquefied natural gas units located at the Churchula Gas Plant would also be covered under 40 CFR 60, Subpart KKK.</p>	<p>§60.630(a)(1) §60.630(b)</p> <p>§60. 630(a)(2) §60. 633(f)</p> <p>§60. 630(a)(3)</p> <p>§60. 630(e)</p>
<i>Emissions Standards</i>	Rule 335-10-.02(63)
<p>1. The emission standards as specified in either 1(a) or 1(b) shall be met to demonstrate compliance with this subpart.</p> <p>(a) Except as specified in §60.633 of 40 CFR 60 Subpart KKK, each affected facility shall comply with the emission standards specified in the following provisos:</p>	<p>§60.632(a) §60.482-1(a) §60.480(e)</p>

Provisos for VOC Equipment Leaks from Onshore Natural Gas Processing Plants

Federally Enforceable Provisos	Regulations
(1) Pumps in light liquid service shall comply with §60.482-2 of 40 CFR 60, Subpart VV, except as specified in §60.633(d) and (e) of 40 CFR 60, Subpart KKK.	§60.482-1(a) §60.482-2 §60.633(d) & (e)
(2) Compressors shall comply with §60.482-3 of 40 CFR 60, Subpart VV, except as specified in §60.633(f) of 40 CFR 60, Subpart KKK.	§60.482-1(a) §60.482-3 §60.633(f)
(3) Pressure relief devices in gas/vapor service shall comply with §60.482-4 of 40 CFR 60, Subpart VV, except as specified in §60.633 (b), (d), and (e) of 40 CFR 60, Subpart KKK.	§60.482-1(a) §60.482-4 §60.633(b), (d), & (e)
(4) Sampling connection systems under 40 CFR 60, Subpart KKK are exempt from the requirements of §60.482-5 of 40 CFR 60, Subpart VV.	§60.633(c)
(5) Open-ended valves or lines shall comply with §60.482-6 of 40 CFR 60, Subpart VV.	§60.482-1(a) §60.482-6
(6) Valves in gas/vapor service and in light liquid service shall comply with 60.482-7 of 40 CFR 60, Subpart VV, except as specified in §60.633(d) and (e) of 40 CFR 60, Subpart KKK.	§60.482-1(a) §60.482-7 §60.633(d) & (e)
(7) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors shall comply with §60.482-8 of 40 CFR 60, Subpart VV.	§60.482-1(a) §60.482-8
(8) Delay of repair shall comply with §60.482-9 of 40 CFR 60, Subpart VV.	§60.482-1(a) §60.482-9
(9) Closed vent systems and control devices shall comply with §60.482-10 of 40 CFR 60, Subpart VV.	§60.482-1(a) §60.482-10

Provisos for VOC Equipment Leaks from Onshore Natural Gas Processing Plants

Federally Enforceable Provisos	Regulations
<p>(i) Provided a flare is utilized to meet any of the above requirements, the flare shall comply with the requirements specified in §60.18 of 40 CFR Part 60, Subpart A.</p>	<p>§60.633(g)</p>
<p>(b) As an alternative means of compliance, the provisions of 40 CFR 65, Subpart F may be complied with to satisfy the requirement of §60.482 through §60.487 of Subpart VV for an affected facility.</p>	<p>§60.480(e) §60.482-1(a)</p>
<p>2. Equipment that is in vacuum service is excluded from the requirements of §60.482-2 through §60.482-10 of 40 CFR 60, Subpart VV if it meets the requirements of §60.486(e)(5) of 40 CFR 60, Subpart VV.</p>	<p>§60.632(a) §60.482-1(d) §60.486(e)(5)</p>
<p>3. An owner or operator may elect to comply with the alternative standards for valves specified in §60.483-1 or 60.483-2 of 40 CFR 60, Subpart VV.</p>	<p>§60.632(b)</p>
<p>4. An owner or operator may apply for permission to use an alternative means of emission limitations as specified in §60.634 of 40 CFR 60, Subpart KKK to satisfy the requirements of §60.482 through §60.487 of 40 CFR 60, Subpart VV for an affected facility.</p>	<p>§60.632(c) §60.634</p>
<p><i>Compliance and Performance Test Methods and Procedures</i></p>	<p>Rule 335-3-10-.02(63)</p>
<p>1. Compliance with §60.482-1 to §60.482-10 of 40 CFR Part 60, Subpart VV shall be determined by the review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485 of 40 CFR 60, Subpart VV.</p>	<p>§60.632(d) §60.482-1(b) §60.485</p>
<p><i>Emission Monitoring</i></p>	<p>Rule 335-3-10-.02(63)</p>
<p>1. The inspection and monitoring requirements specified in §60.482-1 through §60.482-10 of 40 CFR Part 60, Subpart VV and either §60.483-1 or §60.483-2 of 40 CFR Part 60, Subpart VV shall be complied with.</p>	<p>§60.632(a) & (b)</p>

Provisos for VOC Equipment Leaks from Onshore Natural Gas Processing Plants

Federally Enforceable Provisos	Regulations
<i>Recordkeeping and Reporting Requirements</i>	Rule 335-3-10-.02(63)
1. Recordkeeping and reporting requirements specified in §60.7 and §60.19 of 40 CFR Part 60, Subpart A and §60.486 and §60.487 of 40 CFR Part 60, Subpart VV shall be maintained, except as provided for in §60.633, §60.635 and §60.636 of 40 CFR Part 60, Subpart KKK.	§60.7 §60.19 §60.632(e) §60.486 §60.487
2. A Leak Detection and Repair (LDAR) summary report shall be submitted to the Department:	§60.636(c) §60.487(c)
(a) The report shall include the requirements specified in §60.636(c) and a summary of the recordkeeping requirements found in §60.486 as specified in §60.487(c).	
(b) The report shall cover a calendar semi-annual period and shall be submitted to the Department on the following reporting schedule:	
<div style="text-align: center;"><u>Reporting Period</u></div> <i>January 1st through June 30th</i> <i>July 1st through December 31st</i>	<div style="text-align: center;"><u>Submittal Date</u></div> <i>July 31st</i> <i>January 31st</i>

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Appendix A: Facility Engines Periodic Monitoring

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Each Facility Engine

Monitoring approach:		Periodic monitoring						
I. Indicator		Calculated Formaldehyde, NO _x , CO, & VOC emissions (As applicable)						
A. Measurement approach		Fuel gas volume to each unit shall be monitored with a system capable of measuring and recording the flow rate and/or the parameters utilized for flow rate calculation. BTU content of fuel gas stream shall be determined semi-annually, or at a frequency determined by the Department. Formaldehyde, NO _x , CO, & VOC emission factors shall be determined during performance tests.						
II. Indicator range		Pollutant Emissions for each unit shall be maintained at < = to the limits listed in the following table:						
		Emission Point	Unit Rating (BHP)	Operating Hours (hr/yr)	Formaldehyde (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
		42-101A, B, & C	600	NONE	0.28	NONE	NONE	NONE
		42-401A & B	2500	9000 [Total]	0.41	NONE	NONE	NONE
		42-801A & B	2500	NONE	0.41	NONE	NONE	NONE
		NRU-1 & NRU-2	1478	NONE	NONE	3.92	3.05	2.48
		A deviation is defined as anytime the calculated emission rate exceeds the respective allowed emission rates. A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.						
A QIP threshold		Not applicable						
III. Performance criteria								
A. Data representiveness		Fuel gas volume monitor shall be located immediately upstream of the engine. Fuel gas BTU content shall be determined from samples that are representative of the fuel gas being consumed. Performance tests shall be undertaken while engine is being operated at normal loads.						
B. Verification of operational status		Not applicable						
C. QA/QC practices & criteria		The fuel gas volume monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately, or at least annually whichever is more frequent.						

	<p>If the fuel gas monitor fails its calibration tests, the fuel gas monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.</p>
D. Monitoring frequency	<p>Fuel gas volume measured continuously.</p> <p>Fuel gas BTU content shall be determined semi-annually, or at a frequency set by the Department.</p> <p>Performance tests shall be undertaken once every five years.</p>
Data collection procedure	<p>Calculate: Monthly (or as set by the Department)</p> <p style="padding-left: 40px;">Pollutant emissions while utilizing the fuel volume, BTU content, emission factor and operating hours</p> <p style="padding-left: 40px;">Fuel gas volume consumed</p> <p>Record: Monthly</p> <p style="padding-left: 40px;">Fuel gas volume consumed</p> <p style="padding-left: 40px;">Hours of operation</p> <p style="padding-left: 40px;">Pollutant emissions</p> <p>Record: Each occurrence</p> <p style="padding-left: 40px;">Fuel gas BTU content determination</p> <p style="padding-left: 40px;">Time, date and results of each inspection and corrective actions taken</p>
Averaging period	<p>Monthly (or as set by the Department), Rolling 12-month total</p>

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Appendix B: Engine Catalytic Converter Monitoring

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Each Facility Engine Catalytic Converter

Monitoring approach:		[NRU] Compliance Assurance Monitoring (CAM)& [Non-NRU] Periodic Monitoring — Choose at least one:		
I. Indicator	Pressure drop across the catalyst bed	Temperature drop across the catalyst bed	NOx concentrations in the exhaust gas	
A. Measurement approach	Pressure differential will be obtained by observing and recording the pressure immediately upstream and downstream of the catalyst bed.	Temperature differential will be obtained by observing and recording the temperature immediately upstream and downstream of the catalyst bed.	NOx concentrations will be obtained by using a portable monitor to analyze the gases downstream of the catalytic converter.	
II. Indicator range	Pressure differential shall not exceed the manufacturer's maximum recommended pressure differential that indicates sufficient catalyst performance.	Temperature differential shall not exceed the manufacturer's maximum recommended temperature differential that indicates sufficient catalyst performance.	NOx concentrations in the catalytic converter exhaust gas shall not exceed the NOx concentrations from the latest performance test.	
A QIP threshold	A deviation is defined as anytime the pressure differential exceeds the recommended pressure differential.	A deviation is defined as anytime the temperature differential exceeds the recommended temperature differential.	A deviation is defined as anytime the NOx concentration exceeds the concentration from the latest performance test.	
	A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.	A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.	A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.	
	If more than 5 deviations occur during any semi- annual reporting period, a Quality Improvement Plan shall be developed and implemented to ensure sufficient future catalyst performance.	If more than 5 deviations occur during any semi- annual reporting period, a Quality Improvement Plan shall be developed and implemented to ensure sufficient future catalyst performance.	If more than 5 deviations occur during any semi- annual reporting period, a Quality Improvement Plan shall be developed and implemented to ensure sufficient future catalyst performance.	
	NOTE: QIP Requirements apply only to NRU engines.	NOTE: QIP Requirements apply only to NRU engines.	NOTE: QIP Requirements apply only to NRU engines.	

III. Performance criteria			
A. Data representiveness	Pressure monitors shall be placed upstream and downstream of the catalyst bed.	Temperature monitors shall be placed upstream and downstream of the catalyst bed.	The portable monitor calibration gas used shall have concentrations that are: (1) Greater than or equal to 150% of, AND (2) Less than or equal to 10% of, AND (3) Approximately equal to, the concentrations obtained from the last performance test. The portable monitor must be capable of less than 5% error when compared to the calibration gases.
B. Verification of operational status	Not applicable	Not applicable	Not applicable
C. QA/QC practices & criteria	The pressure monitors shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately, or at least annually whichever is more frequent.	The temperature monitors shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately, or at least annually whichever is more frequent.	Should the portable monitor exceed the 5% error margin, it shall be taken out of service until it is either repaired, replaced, or passes a new calibration test.
D. Monitoring frequency	Pressure differential shall be monitored weekly.	Temperature differential shall be monitored weekly.	NO _x concentration shall be monitored weekly.
Data collection procedure	Record: Weekly	Record: Weekly	Record: Weekly
	Pressure differential Record: Each occurrence Time, date and results of each inspection and corrective actions taken	Temperature differential Record: Each occurrence Time, date and results of each inspection and corrective actions taken	NO _x concentration Record: Each occurrence Time, date and results of each inspection and corrective actions taken
Averaging period	Not applicable	Not applicable	Not applicable

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Appendix C: SRU & Thermal Oxidizer Monitoring

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SRU & Thermal Oxidizer

Monitoring approach:	Periodic Monitoring	Compliance Assurance Monitoring (CAM)
I. Indicator	H₂S feed rate	Firebox temperature
A. Measurement approach	<p>Inlet feed volume shall be monitored with a system capable of measuring and recording the flow rate and/or the parameters utilized for flow rate calculation or estimated utilizing material balances, computer simulations, special testing and etc.</p> <p>Inlet feed analyzed monthly for its H₂S content.</p>	<p>Firebox temperature shall be monitored with a thermocouple or equivalent device.</p>
II. Indicator range	H₂S feed rate of ≤ 500 Lbs/Hr	Firebox temperature of ≥ 900 °F
	<p>A deviation is defined as anytime the daily H₂S feed rate is > 500Lbs/Hr.</p>	<p>A deviation is defined as anytime the firebox temperature is < 900 °F.</p>
	<p>A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.</p>	<p>A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.</p>
A QIP threshold	<p>If more than 6 deviations occur during any semi-annual reporting period, the maximum mass emission rate and associated flow rate criteria shall be utilized in an air quality modeling study determine if an exceedance occurred and a Quality Improvement Plan shall be developed and implemented.</p>	<p>If more than 6 deviations occur during any semi-annual reporting period, determination shall be made of the oxidation efficiency that resulted from the lowest temperature event and the resultant data utilized in an Air quality modeling study to determine if an exceedance occurred and a Quality Improvement Plan shall be developed and implemented.</p>
III. Performance criteria		
A. Data representiveness	<p>Each volume monitor shall be located upstream of the thermal oxidizer and shall consist of a single device that monitors all streams or multiple devices that monitor individual or multiple streams.</p> <p>The volume sensor shall be accurate to within 2% of span or 5% of design flow rate.</p> <p>The sample point for H₂S content shall be located downstream of where the various gas processing streams combine prior to entry into thermal oxidizer.</p>	<p>Each temperature monitor shall be located within the combustion chamber or immediately downstream of the combustion chamber.</p> <p>The sensor shall be accurate to within 5% of temperature measured.</p>

B. Verification of operational status	Not applicable	Not applicable
C. QA/QC practices & criteria	<p>Each volume monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately, or at least annually whichever is more frequent.</p> <p>If the monitor fails its calibration tests, the monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.</p>	<p>Each temperature monitor shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is calibrated accurately.</p> <p>If the monitor fails its calibration tests, the monitor shall be taken out of service until repairs and/or replacements are made and a new calibration test is undertaken and passed.</p>
D. Monitoring frequency	<p>Inlet volume measured continuously.</p> <p>Inlet feed H₂S content sample obtained and analyzed once each month.</p>	<p>Continuously</p>
Data collection procedure	<p>Calculate &/or record an inlet volume that is representative of the average daily volume entering thermal oxidizer.</p> <p>Record daily hours of operation</p> <p>Record each H₂S concentration analysis.</p> <p>Calculate & record H₂S and SO₂ emissions each day</p> <p>Record calibration results.</p> <p>Record inspection results, corrective and actions taken.</p>	<p>Recorded once each day.</p> <p>Record calibration results.</p> <p>Record inspection results, corrective and actions taken.</p>
Averaging period	24 hours	Instantaneous

The indicator limit of 500 Lbs/Hour of H₂S feeding the thermal oxidizer is based on engineering experience and air quality modeling of larger sources. The air quality modeling of these other larger sources indicates that this feed rate limit is approximately 10% of the feed rate that would create a concern with regards to offsite H₂S concentrations.

The indicator limit of 900 °F firebox temperature to reflect combustion efficiency is based on engineering knowledge and annual testing of sulfur recovery unit thermal oxidizers that burn acid gas. Such a limit should safely attain 95%+ destruction of the H₂S entering the thermal oxidizer.

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Appendix D: Process Flare Monitoring

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Process Flare

Monitoring approach:	Periodic Monitoring	Compliance Assurance Monitoring (CAM)
I. Indicator	H₂S feed rate	Operate flare with a flame or spark present at all times when a process gas stream may be sent to it.
A. Measurement approach	<p>Inlet feed volume shall be monitored with a system capable of measuring and recording the flow rate and/or the parameters utilized for flow rate calculations or estimated utilizing material balances, computer simulations, special testing, etc.</p> <p>Inlet feed analyzed monthly for its H₂S content.</p> <p>Frequency may be modified upon receipt of Departmental approval.</p>	<p>The flare tip shall be equipped either with a continuous sparking flame igniter that is monitored by an amp meter or an equivalent device or visual observation OR with a continuously burning pilot light that is monitored with either a thermocouple or an equivalent device or by visual observation.</p>
II. Indicator range	H₂S feed rate <= 500 Lbs/Hr	Presence of a flame or spark at flare tip
	<p>A deviation is defined as anytime the average H₂S feed rate is > 500 Lbs/Hr.</p> <p>Two deviations within a semi- annual period triggers an immediate running of an air quality modeling study that utilizes the maximum inlet mass and flow rates that occurred during this period.</p> <p>The maximum feed rate may be modified upon receipt of Departmental approval.</p>	<p>A deviation is defined as when there was no spark or flame present at the flare tip when a process gas stream could be vented to it.</p> <p>A deviation triggers an immediate inspection, corrective action, and reporting within 48 hours or two work days.</p>
A QIP threshold	Not applicable	If more than 6 deviations occur during any semi-annual reporting period, a Quality Improvement Plan shall be developed and implemented.
III. Performance criteria		
A. Data representiveness	<p>Each volume monitor shall be located upstream of the flare and shall consist of a single device that monitors all streams or multiple devices that monitor individual or multiple streams.</p> <p>The sample point for obtaining the H₂S content shall be located at or upstream of each volume monitor.</p>	<p>Each flame igniter or flame monitor shall be located at the flare tip and focused on the area where gas exits the flare tip.</p> <p>Visual observations shall be made from the location that provides the best view of the flare tip and/or flare pilot lights or flare igniter.</p>

B. Verification of operational status	Not applicable	Not applicable
C. QA/QC practices & criteria	Each volume monitor shall be maintained and calibrated in accordance with the manufacturer's specifications.	Each flame igniter or flame monitor shall be maintained and calibrated in accordance with the manufacturer's specifications, other written procedures that provide adequate assurance that the device is properly maintained and calibrated accurately, or at least annually whichever is more frequent.. Repairs and/or replacements shall be made immediately when non-functioning or damaged parts are found. Flame igniter arc length shall not exceed 10% of arc interval and shall have an arcing frequency of no greater than once every 3 seconds.
D. Monitoring frequency	Inlet volume shall be measured continuously. Inlet feed H ₂ S content sample obtained and analyzed once each month.	Pilot flame shall be monitored either continuously with a thermocouple or daily with visual inspections if operating staff is on site. Flame igniter - arcing frequency shall be monitored either continuously with an amp meter or daily with visual inspections if operating staff is on site.
Data collection procedure	Calculate &/or record an inlet volume that is representative of the average daily volume entering the flare. Record daily hours of operation. Record each H ₂ S concentration analysis. Calculate & record H ₂ S feed. Record time, date and results of each calibration. Record time, date and results of each inspection and corrective actions taken. Submit air quality modeling results to the Department within 60 days of the end of the semi-annual period.	Record time, date and duration of each incident of when no spark or flame was present at the flare tip when a process gas stream could have been sent to it. Record time, date and results of each visual observation. Record time, date and results of each calibration. Record time, date and results of each inspection and corrective actions taken.
Averaging period	Monthly	Instantaneous

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Appendix E: Opacity Monitoring for Emergency Facility Flare

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Opacity for the Emergency Facility Flare

Periodic Monitoring

Monitoring approach:	
I. Indicator	Opacity for the Emergency Facility Flare [§60.18(c)(1) & §63.11(b)(4)]
A. Measurement approach	<p>Provided the emergency facility flare is being operated, a visual emission observation shall be undertaken daily, or at a frequency approved by the Department.</p> <p>Duration of each observation shall be ≥ 15 minutes <u>AND</u> ≤ 120 minutes</p> <p>Each observation shall be conducted in accordance with:</p> <p>Test Method 22 of 40 CFR Part 60</p>
II. Indicator range	<p>Opacity shall be maintained at $\leq 0\%$, except for periods not to exceed 5 minutes over any consecutive 2-hour period</p> <p>An exceedance is defined as anytime the observed opacity exceeds 0% for more than 5 minutes over a consecutive 2-hour period when utilizing Method 22. Any visible emission observed using this method is considered 20% opacity.</p> <p>A deviation or exceedance triggers continued visible emissions observations at a frequency suitable to defining the emission deviation or exceedance event.. One observation shall be undertaken to establish the end of the visible emission deviation event.</p> <p>A deviation or exceedance triggers an inspection, corrective action, and immediate reporting within 48 hours or two work days.</p>
III. Performance criteria	
A. Monitoring frequency	Daily, or as set by the Department
Data collection procedure	<p>Record: Daily, or as set by the Department</p> <p>Each 15 second observation reading</p> <p>Record: Each occurrence</p> <p>Time, date and results of corrective actions taken</p>
Averaging period	Not applicable

Appendix F: Opacity Monitoring for Units subject to State Rule

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Opacity Monitoring for Units Subject to State Rule

Monitoring approach:	Periodic Monitoring
I. Indicator	Opacity [Rule 335-3-4-.01]
A. Measurement approach	<p>Provided the unit referred to in the unit specific section is being operated and visible emissions are observed from the unit, a visible emission observation on the unit shall be undertaken at the frequency specified in the unit specific section.</p> <p>Duration of each observation shall be ≥ 15 minutes <u>AND</u> ≤ 60 minutes</p> <p>Each observation shall be conducted in accordance to either:</p> <p style="padding-left: 40px;">Test Method 9 of 40 CFR Part 60</p> <p style="padding-left: 20px;">Or</p> <p style="padding-left: 40px;">Test Method 22 of 40 CFR Part 60</p>
II. Indicator range	<p>2nd 6-min. opacity average $\leq 20\%$ Each 6-min. opacity average $\leq 40\%$ Or ≤ 12 minutes of visible emissions during observation</p> <p>An exceedance is defined as anytime the observed 6-minute average opacity exceeds 20% for the 2nd time when utilizing Method 9.</p> <p>An exceedance is defined as anytime the observed 6-minute average opacity exceeds 40% for the 1st time when utilizing Method 9.</p> <p>A deviation is defined as anytime the accumulated time in which visible emissions were observed exceeds 12 minutes per observation when utilizing Method 22. Any visible emission observed using this method is considered 20% opacity.</p> <p>A deviation or exceedance triggers continued visible emissions observations at a frequency suitable to defining the emission deviation or exceedance event. One observation shall be undertaken to establish the end of the visible emission deviation event.</p> <p>A deviation or exceedance triggers an inspection, corrective action, and immediate reporting within 48 hours or two work days.</p>
III. Performance criteria	
A. Monitoring frequency	Each occurrence
Data collection procedure	<p>Record: Each daily inspection of the unit and each occurrence of visible emission</p> <p>Each 15 second observation reading</p> <p>Record: Each occurrence</p> <p>Time, date and results of corrective actions taken</p>
Averaging period	Six minutes